SHARP

MD/CD DECK

OPERATION MANUAL

MODEL
MD-R3

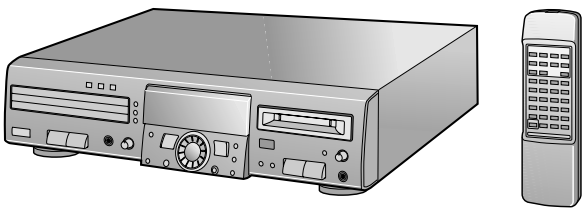
Thank you for purchasing this SHARP product.
For the best performance, read this manual carefully.
It will guide you in operating your SHARP product.

FOR YOUR RECORDS

For your assistance in reporting this unit in case of loss or theft, please record below the model number and serial number which are located on the rear of the unit.

Please retain this information.

Model number _____
Serial number _____
Date of purchase _____
Place of purchase _____



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING
FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

- It is the intent of Sharp that this product be used in full compliance with the copyright laws of the United States and that prior permission be obtained from copyright owners whenever necessary.
- US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

IMPORTANT SAFEGUARDS

CAUTION

All the safety and operating instructions should be read before the appliance is operated, and should be retained for future reference.

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. Improper use can result in potential electrical shock or fire hazards. In order not to defeat the safeguards, observe the following basic rules for its installation, use and servicing.

1 Heed Warnings - All warnings on the appliance and in the operating instructions should be adhered to.

2 Follow Instructions - All operating and use instructions should be followed.

3 Water and Moisture - The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

4 Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer.

- An appliance and cart combination should be moved with care.
  Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

5 Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.

6 Ventilation - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

7 Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

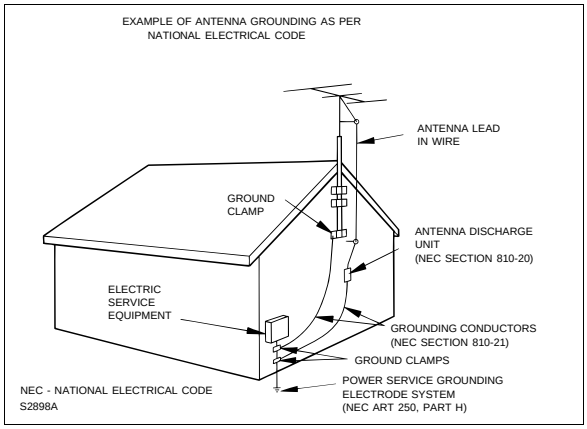
8 Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

9 Power-Cord Protection - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

10 Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

11 Power Lines - An outdoor antenna should be located away from power lines.

12 Outdoor Antenna Grounding - If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.



13 Nonuse Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

14 Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

15 Damage Requiring Service - The appliance should be serviced by qualified service personnel when:

A The power-supply cord or the plug has been damaged; or

B Objects have fallen, or liquid has been spilled into the appliance; or

C The appliance has been exposed to rain; or

D The appliance does not appear to operate normally or exhibits a marked change in performance; or

E The appliance has been dropped, or the enclosure damaged.

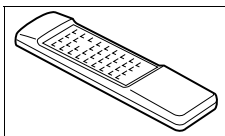
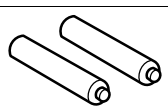
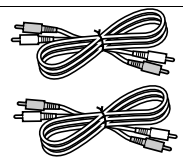
16 Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

17 Grounding or Polarization - Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

CONTENTS

	Page
ACCESSORIES	1
PRECAUTIONS	2
NAMES OF CONTROLS AND INDICATORS	3
REMOTE CONTROL	4
CONNECTIONS	5 - 7
SETTING THE CLOCK	8 - 9
MINIDISC OPERATION	10
COMPACT DISC OPERATION	11 - 12
CD AND MD OPERATIONS	13 - 17
RECORDING	18 - 24
EDITING	25 - 35
HOW TO USE THE BUILT-IN TIMER	36 - 38
WHAT IS A MINIDISC?	39 - 40
MINIDISC SYSTEM LIMITATIONS	40
TROUBLESHOOTING	41 - 43
TRANSPORTING THE UNIT	43
MAINTENANCE	44
SPECIFICATIONS	44
LIMITED WARRANTY	Back cover

ACCESSORIES

		
Remote control x 1 (RRMCG0142AWSA)	**"AA" size battery (UM/SUM-3, R6, HP-7 or similar) x 2 (for remote control) (UBATU0001AWZZ)**	**Analog connecting cable x 2 (QCNWG0003AWZZ)**

Note:
Parts and accessories mentioned in this operation manual other than those shown to the left are not included.

PRECAUTIONS

■ General

- Do not use oil, solvents, gasoline, paint thinners or insecticides on the unit.
- Do not expose the unit to moisture, to temperatures higher than 140°F (60°C) or to extreme low temperatures.
- Keep the unit away from direct sunlight, strong magnetic fields, excessive dust, humidity and electronic/electrical equipment (home computers, facsimiles, etc.) which generates electrical noise.
- Hold the AC power plug by the head when removing it from the AC outlet, since pulling the cord can damage internal wires.
- Never open the cabinet. If a foreign object drops into the set, contact your dealer.
- Use the unit on a firm, level surface free from vibration, and do not place anything on the top of the unit.
- If the unit malfunctions while in use, press the POWER button to turn the power off, then disconnect the AC power cord from the AC outlet. Plug the AC power cord back in, and then press the POWER button to turn the power on.
- If a lightning storm is taking place near you, it is suggested that you disconnect the AC power cord from the AC outlet for safety.
- Before moving the unit, be sure to remove all CDs and MDs from the unit. Then, turn the power off and unplug the AC power cord.
  If you move the unit with CDs or MDs left in it, they may jam inside the unit, leading to damage.

Warning:
The voltage used must be the same as that specified on this unit. Using this product with a higher voltage than that which is specified is dangerous and may result in a fire or other type of accident causing damage. SHARP will not be held responsible for any damage resulting from use of this unit with a voltage other than that which is specified.

■ Installation location

Do not install the unit in the following places.
Otherwise, it may cause unit malfunctions or accidents.

- Places exposed to vibration.
- Places exposed to direct sunlight for many hours.
- Places where temperatures are excessively high or low.
- Places exposed to high humidity.
- Places exposed to excessive dust.
- Poorly ventilated places.
- Places exposed to water, for example, a bathroom.
- Places near objects which generate magnetism or electric noise.

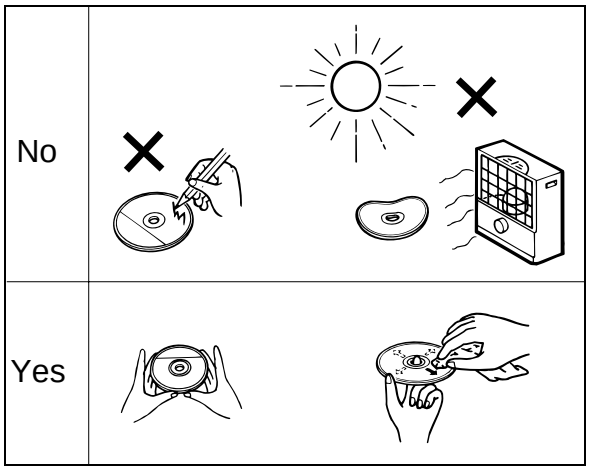
■ Condensation

Sudden temperature changes, storage or operation in an extremely humid environment may cause condensation inside the cabinet (CD pickup, MD pickup, etc.) or on the transmitter window on the remote control.
Condensation can cause the unit to malfunction.
If this happens, leave the power on with no disc in the unit until normal playback is possible (about 1 hour) or wipe off any condensation on the transmitter window with a soft cloth before operating the unit.

■ Care of compact discs

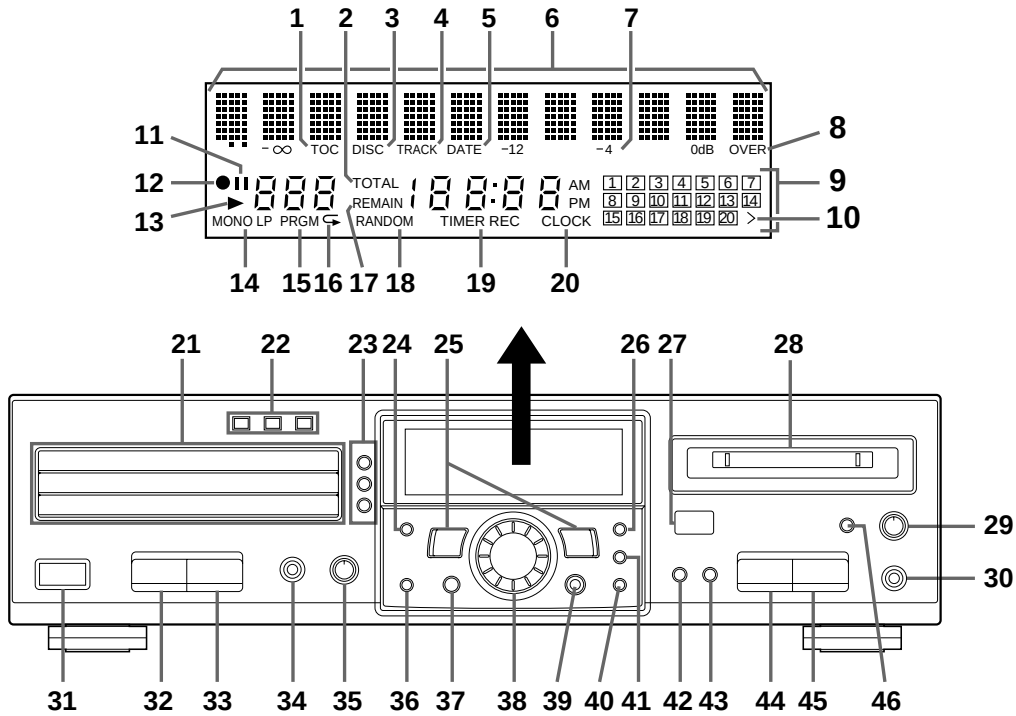
Compact discs are fairly resistant to damage, however mistracking can occur due to an accumulation of dirt on the disc surface.
Follow the guidelines below for maximum enjoyment from your CD collection and player.

- Do not write on either side of the disc, particularly the non-label side. Signals are read from the non-label side. Do not mark this surface.
- Keep your discs away from direct sunlight, heat, and excessive moisture.
- Always hold the CDs by the edges. Fingerprints, dirt, or water on the CDs can cause noise or mistracking. If a CD is dirty or does not play properly, clean it with a soft, dry cloth, wiping straight out from the center, along the radius.



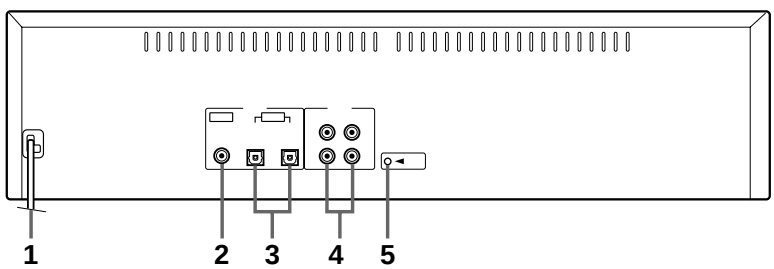
NAMES OF CONTROLS AND INDICATORS

■ Front panel



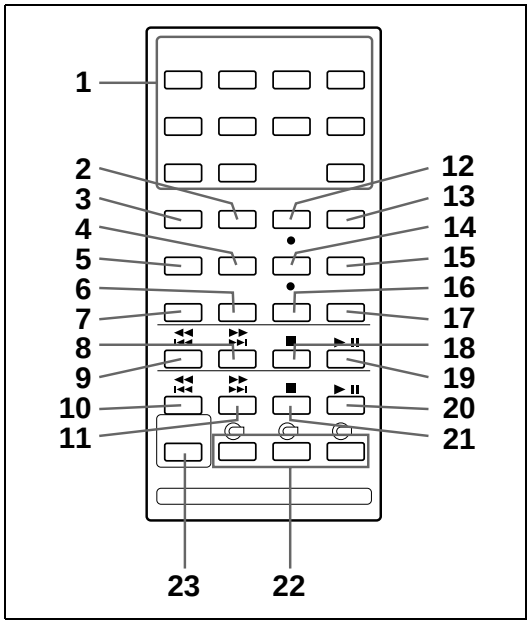
1. MD TOC Indicator: TOC
2. Total Time Indicator
3. Disc Name Indicator
4. Track Name Indicator
5. Date Indicator
6. Level Meter/Character Information Display
7. Recording Level Indicator
8. Recording Level Too High Indicator
9. Music Calendar
10. More Tracks Indicator
11. Pause Indicator: ❙❙
12. Record Indicator: ●
13. Play Indicator: ▶
14. Monaural Long-Play Mode Indicator
15. Program Indicator
16. Repeat Indicator: ⮌
17. Remaining Time Indicator
18. Random Play Indicator
19. Timer Playback/Timer Recording Indicator
20. Clock Indicator
21. CD Trays
22. CD Direct Play Buttons and Indicators
23. CD Open/Close Buttons: ⏏
24. CD Track Select Button
25. Cue/Review Buttons: ◀◀/▶▶
26. Display/Character Button
27. Remote Sensor
28. MD Loading Slot
29. Record Level Control
30. Microphone Jack
31. Power Button
32. CD Stop Button: ■
33. CD Play/Pause Button: ▶❙❙
34. Headphone Jack
35. Headphone Level Control
36. CD Edit Button
37. Program Button
38. Jog Dial (Next/Previous)
39. Enter Button
40. Delete/Clear/Timer Button
41. Name/TOC Edit Button
42. Input Select Button
43. Record Button: ●
44. MD Stop Button: ■
45. MD Play/Pause Button: ▶❙❙
46. MD Eject Button: ⏏

■ Rear panel



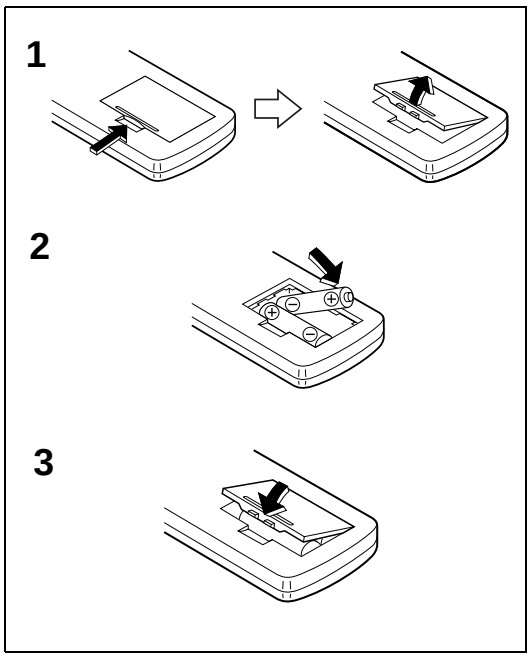
1. AC Power Cord
2. Coaxial Input Jack (Digital)
3. Optical Input/Output Jacks (Digital)
4. Line Input/Output Jacks (Analog)
5. Reset Button

REMOTE CONTROL



■ Names of controls

1. **Direct Key Buttons**
2. **Play Mode Button**
3. **Music Scan Button**
4. **Input Select Button**
5. **Display Button**
6. **Auto Mark Button**
7. **Time Button**
8. **MD Track Up/Cue Button: ▶▶| / ▶▶**
9. **MD Track Down/Review Button: |◀◀ / ◀◀**
10. **CD Track Down/Review Button: |◀◀ / ◀◀**
11. **CD Track Up/Cue Between: ▶▶| / ▶▶**
12. **Program Button**
13. **Clear Button**
14. **Synchro Record Button: ●**
15. **Record Cancel Button**
16. **Record Button: ●**
17. **Record Mode Button**
18. **MD Stop Button: ■**
19. **MD Play/Pause Button: ▶II**
20. **CD Play/Pause Button: ▶II**
21. **CD Stop Button: ■**
22. **CD Play Buttons: 1 - 3**
23. **Power Button**



■ Loading the batteries for the remote control

1 Remove the battery compartment cover.

2 Insert 2 “AA” size batteries (UM/SUM-3, R6, HP-7 or similar) into the battery compartment.

- When inserting the batteries, push them toward the ⊖ battery terminals.
- Placing the batteries the wrong way round may cause the unit to malfunction.

3 Replace the battery compartment cover.

Battery removal:

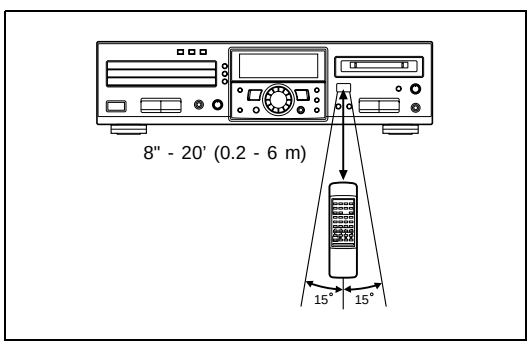
- Push the batteries toward the ⊖ battery terminals and remove them.

Precautions for battery use:

- Insert the batteries according to the direction indicated in the battery compartment.
- Replace all batteries with new ones at the same time.
- Remove the batteries if weak or if the unit is not in use for long periods to prevent potential damage due to battery leakage.
- Do not mix old and new batteries.

Caution:

Do not use rechargeable batteries (nickel-cadmium battery, etc.).



■ Proper use of the remote control

Aim the remote control at the remote control sensor within 30° with no obstacles, and operate as shown.

Notes concerning use:

- Replace the batteries if the control distance decreases or operation becomes erratic.
- Periodically clean the transmitter window on the remote control and the sensor on the main unit with a soft cloth.
- Exposing the sensor on the main unit to strong light may interfere with operation. Change the lighting or the direction of the unit.
- Keep the remote control away from moisture, excessive heat, shock, and vibrations.
- The remote control’s usable range is between 8" (0.2 m) and 20’ (6 m) away from the sensor.

CONNECTIONS

■ Digital and analog connections

This unit can be connected to your equipment by making a digital or analog connection.

● When recording the playback signals from other equipment using this unit

Digital connection	Analog connection
Digital equipment with an optical output jack or a coaxial output jack Stereo system, CD player, MD player, MD recorder, DAT, DSS tuner, etc. ↓ **Can be recorded with high fidelity, without converting the original digital signals.**	**Equipment with line output jacks or a headphone jack** CD player, headphone stereo, radio cassette player, stereo system, video, etc. ↓ **Digital signals, such as those from a CD player, can be recorded as analog signals.**

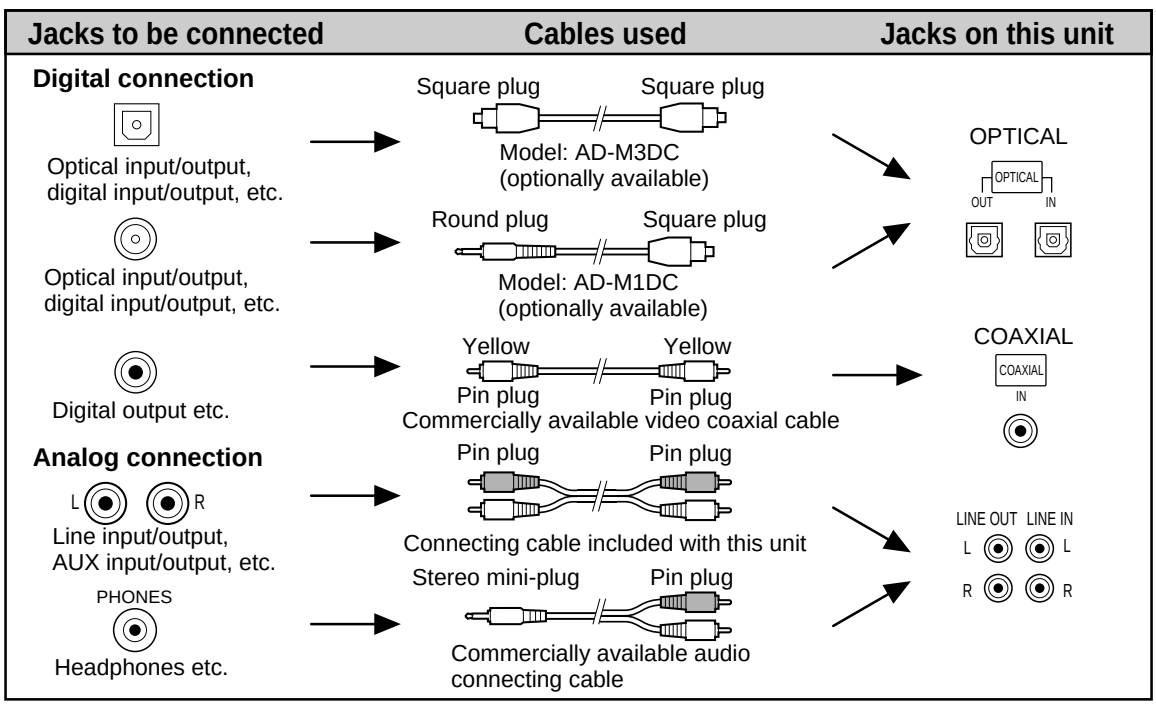
● When listening to a recording on this unit or recording its output on other equipment

Digital connection	Analog connection
Digital equipment with an optical input jack Stereo system, MD recorder, DAT, etc. ↓ **Can be played back or recorded from with high fidelity, without converting the original digital signals.**	**Equipment with line input jacks** Stereo system, radio cassette recorder, video, etc. ↓ **Played back or recorded from with analog signals.**

● Depending on the digital equipment, the sampling frequency may be different (DAT etc.) from this unit's sampling frequency. This unit supports these digital devices using an automatic switching function (**Sampling rate converter**: 32 kHz, 48 kHz → 44.1 kHz automatically switched).

■ About the connecting cables

The type of cables required to make connections depends on the type of signal (digital/analog) and input/output jacks on the equipment being connected to this unit.
Check the shape of the jacks carefully before making connections.



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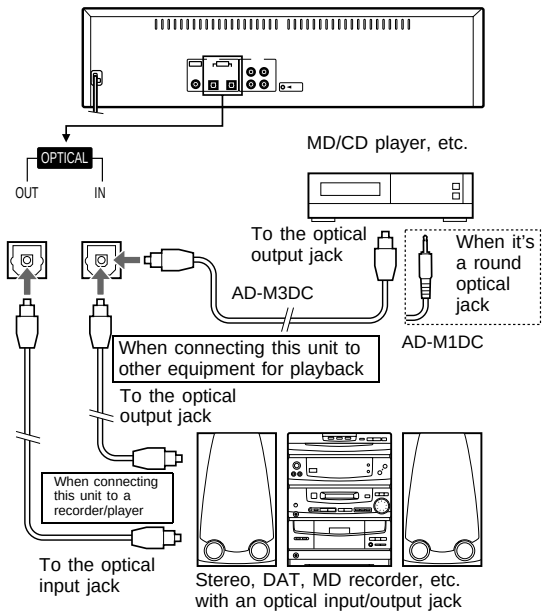
■ When making a digital connection

When connecting the unit to equipment that has square/round optical jacks:

Connect the other equipment to the "OPTICAL jacks" on the back of this main unit.

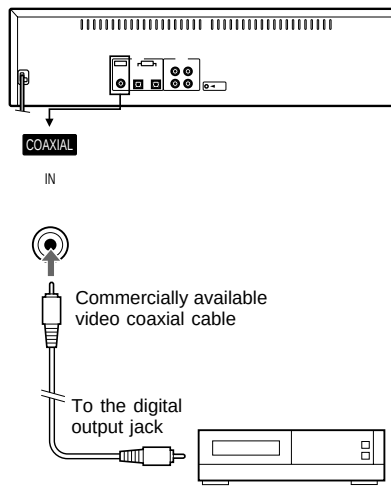

OPTICAL
OUT
IN
MD/CD player, etc.
To the optical output jack
When it's a round optical jack
AD-M3DC
AD-M1DC
When connecting this unit to other equipment for playback
To the optical output jack
When connecting this unit to a recorder/player
To the optical input jack
Stereo, DAT, MD recorder, etc. with an optical input/output jack

- If this unit is connected to a stereo, the digital audio from a CD (or other digital source) can be recorded. When recording from a cassette tape, radio broadcast, etc. an analog connection is required.

When connecting this unit to equipment that has a coaxial jack:

Connect the other equipment to the "COAXIAL jack" on the back of this main unit.

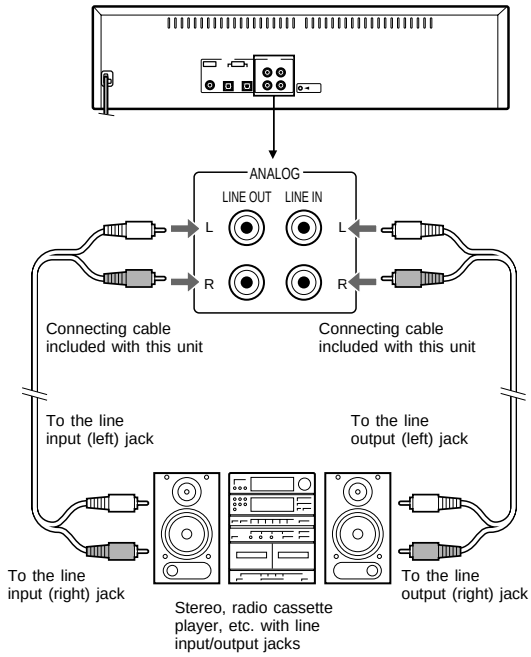
- The coaxial connection is only an input to this unit.



■ When making an analog connection

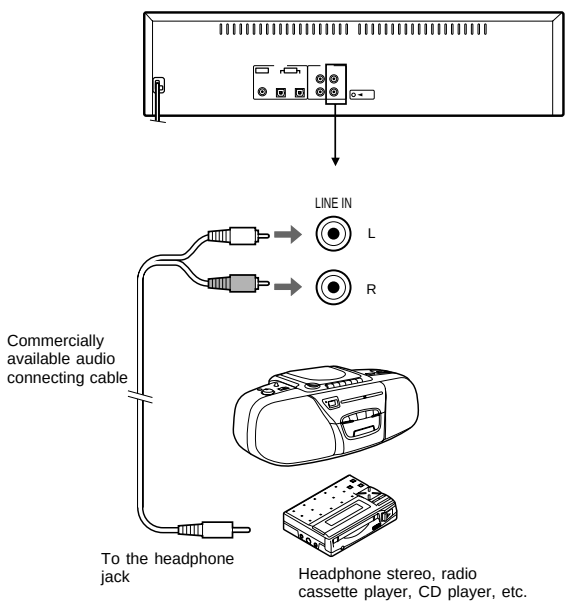
When connecting the unit to equipment that has line jacks:

Connect the other equipment to the "ANALOG jacks" on the back of this main unit.


ANALOG
LINE OUT
LINE IN
L
R
Connecting cable included with this unit
Connecting cable included with this unit
To the line input (left) jack
To the line output (left) jack
To the line input (right) jack
To the line output (right) jack
Stereo, radio cassette player, etc. with line input/output jacks

When connecting this unit to equipment that only has a headphone jack:

Connect the other equipment to the "LINE IN jacks" on the back of this main unit.



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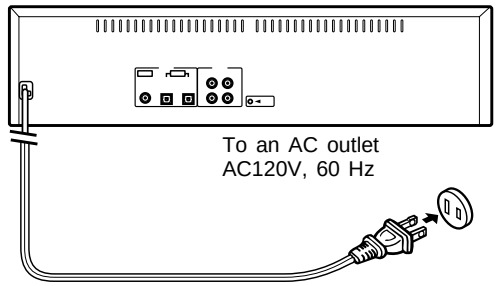
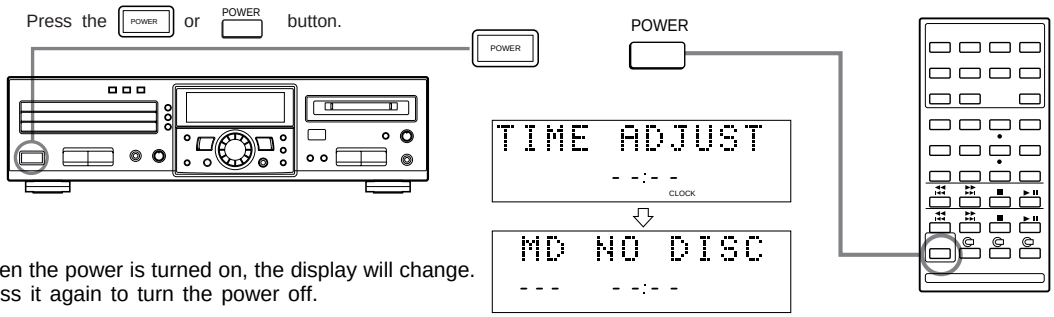
■ Connecting the AC power cord



If you will not be using this unit for a prolonged period of time, unplug the AC power cord from the AC outlet. Even when the power is turned off, a small amount of current is still consumed.

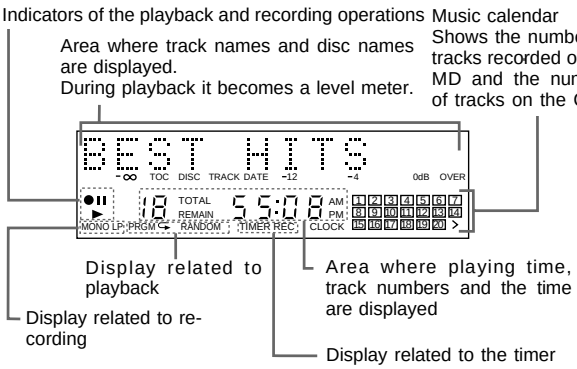
■ How to turn the power on or off



- When the power is turned on, the display will change.
- Press it again to turn the power off.

■ How to read the display

Various messages, describing the operations and contents of MiniDiscs are displayed in the display section.


Indicators of the playback and recording operations
Area where track names and disc names are displayed.
During playback it becomes a level meter.
Music calendar
Shows the number of tracks recorded on an MD and the number of tracks on the CD.
BEST HITS
TOC DISC TRACK DATE
0dB OVER
TOTAL
REMAIN
AM
PM
MONO LP PRGM
RANDOM
TIMER REC
CLOCK
Display related to playback
Display related to recording
Area where playing time, track numbers and the time are displayed
Display related to the timer

To change the brightness of the display

Turn the power on and hold down the DISPLAY/CHARACTER (DISPLAY) button for at least two seconds.

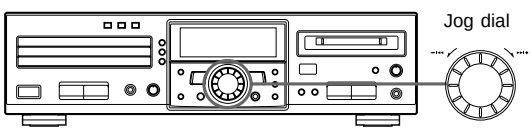
- The "DIMMER ON" display will appear, and the display will become dimmer.

To return to the original brightness, hold down the DISPLAY/CHARACTER (DISPLAY) button for at least two seconds.

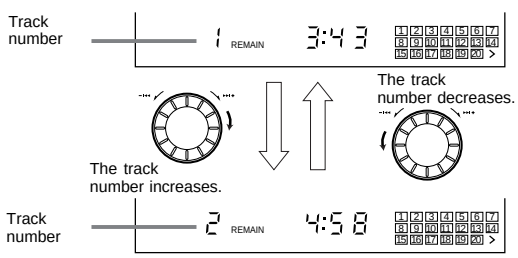
- The "DIMMER OFF" display will appear, and the original brightness will be restored.

■ Jog Dial

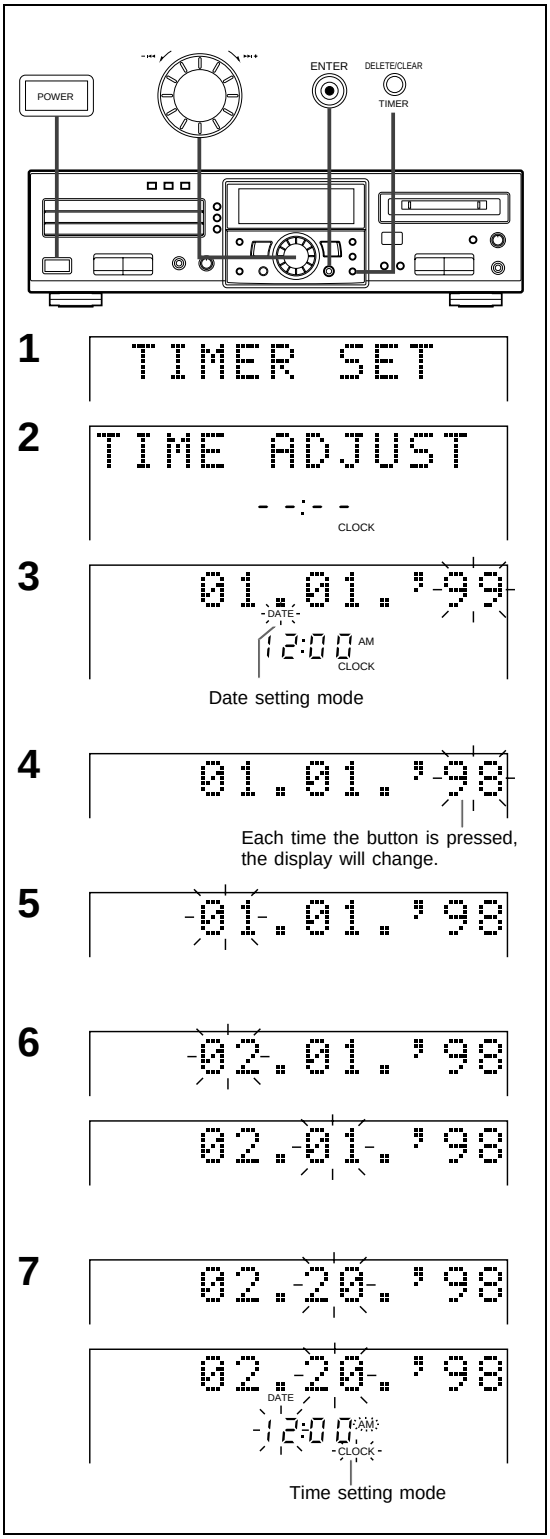
The jog dial on the main unit can be used to select track numbers (page 13) or to select characters (page 31).



- When the jog dial is turned left or right it stops at 15° intervals, each click position represents one press of the I◀◀/▶▶I button on the remote control. (Track up/down)
- When the dial is twisted harder, it has the same effect as pushing the I◀◀/▶▶I button on the remote control repeatedly. (Track up/down)



SETTING THE CLOCK



When recording, the date and time are recorded on the Minidisc (page 18).

■ Setting the date

1 Press the POWER button to turn the power on and press the TIMER button.

2 Within 10 seconds, turn the jog dial until “TIME ADJUST” appears.

3 Within 10 seconds, press the ENTER button.

- The unit will enter the date setting mode.

4 Set the “year” using the jog dial.

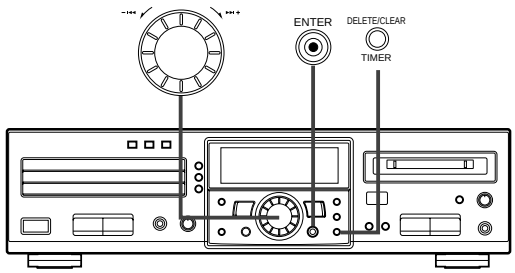
- When you turn the jog dial and let go, the year will change up or down by one.
- The year 2000 or later is set as follows:
  [00] indicates the year 2000.
  [01] indicates the year 2001.
- The range of dates that can be entered is from January 1, 1997 to December 31, 2099.

5 Press the ENTER button to set the “year”.

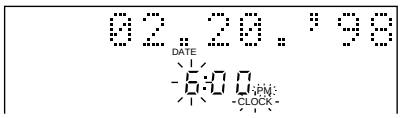
6 Set the “month” repeating steps 4 and 5.

7 Set the “day” repeating steps 4 and 5.

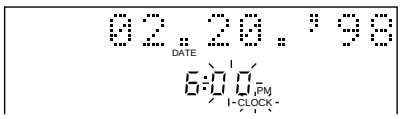
- The unit will enter the time setting mode.



8



9



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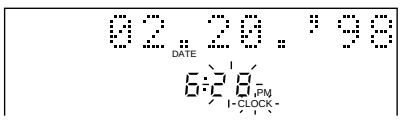
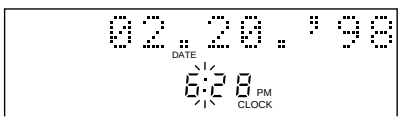


11



■ Setting the time

After step 7, described in the “Setting the date” section

8 Set the “hour” using the jog dial.

- Turn the jog dial left or right, the hour will increase or decrease by one with every click position.
- The clock uses the 12-hour system. Pay attention to the AM or PM indicator on the display.
  AM 0:00 → midnight, PM 0:00 → noon

9 Press the ENTER button to set the “hour”.

10 Adjust the “minute” using the jog dial.

11 Press the ENTER button to set the “minute”.

- When the ENTER button is pressed, the clock will show the correct time.

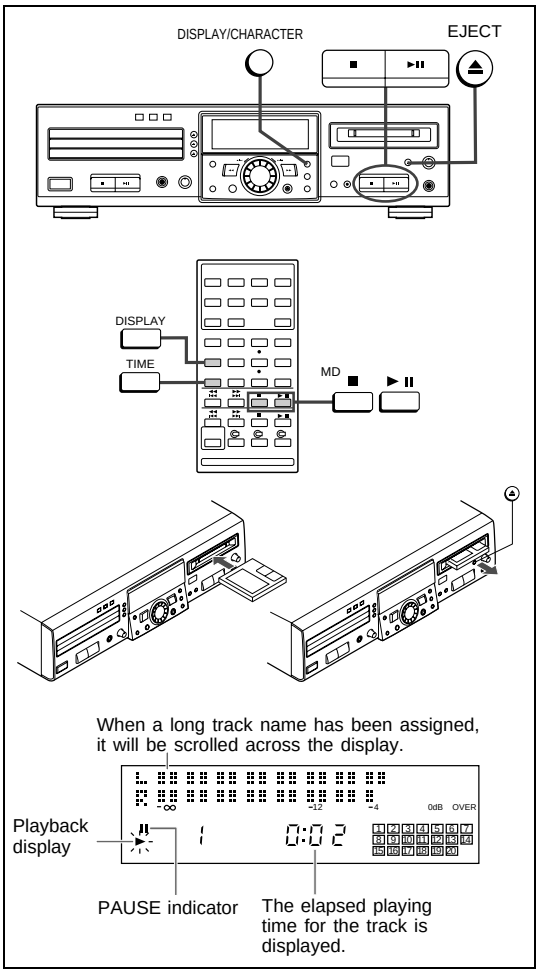
Checking the date and time

After pressing the TIMER button, turn the jog dial until the date and time are displayed.

Resetting the date and time

See “Setting the clock”.

- Once you have set the date and time, “TIME ADJUST” will not be displayed in step 2. Turn the jog dial to make the date and time appear.
- If you do not need to change the settings, just press the ENTER button without turning the jog dial again.



■ Loading and playing a MiniDisc

1 Switch the external unit to input the MD signal.

2 Press the MD ■ button

3 Load a MiniDisc in the direction indicated by the arrow on the MiniDisc, with the label side facing up.

(Insert the MiniDisc firmly, until a click is heard.)

- After a few seconds, the total number of tracks, total disc playing time and disc name (where recorded) will be displayed.
- The music schedule will be displayed only for the number of tracks on the disc.
- If the MD contains more than 21 tracks, ">" will appear.

4 Press the MD ▶II button to start playback.

- The "▶" indicator will light up.
- When the last track has been played back, this unit will stop automatically.
- To stop playback before the last track has finished playing, press the MD ■ button.

To interrupt playback:

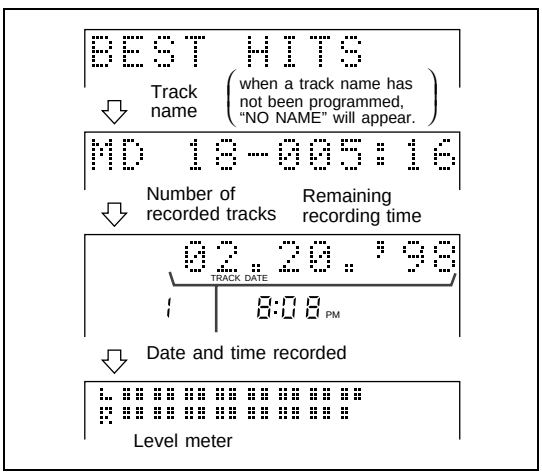
Press the MD ▶II button during playback.

- To resume playback, press the MD ▶II button again.

To remove a MiniDisc:

Press the ⏏ button.

- The MiniDisc will be ejected.
- If a MiniDisc has been left in the unit for several hours, it will be warm to the touch when it is removed. This is normal.



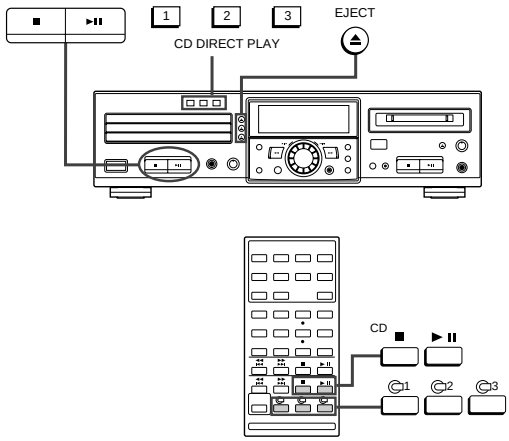
To check a track name or the date of a recording during playback:

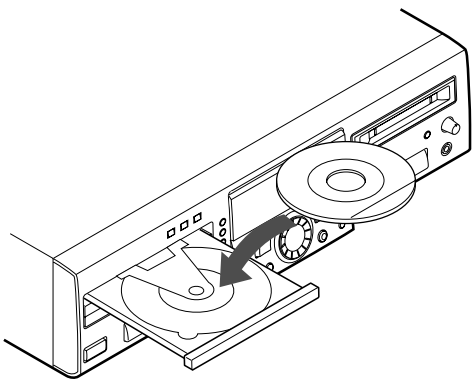
Press the DISPLAY/CHARACTER (DISPLAY) button during playback or while the unit is in the pause mode.

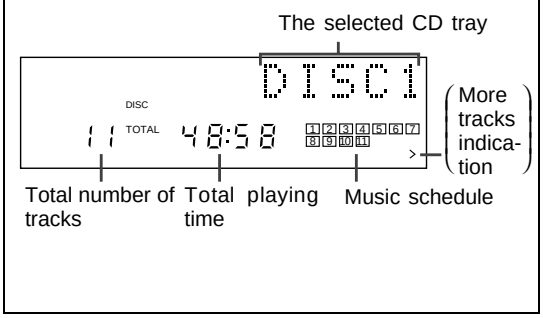
- Each time this button is pressed, the display will switch.
- In the following case, the track name will not be displayed:
  - A MiniDisc that has not been given a track name.
- In the following cases, the number of tracks, the remaining recordable time, and the recording dates will not be displayed:
  - A playback-only MiniDisc.
  - A MiniDisc recorded on a recorder that did not write a recording date.

Note:

- Although MiniDiscs will not normally skip due to vibration, you may hear a skip in the sound if there is a continuous vibration. When you listen to MiniDiscs near a radio or a TV set, the radio or the TV set may pick up noise.
  Keep the unit as far away as possible from tuners.







■ Loading and playing CDs

1 Press the CD ■ button.

2 Press the ⏏ button to open the disc tray.

- It is not possible to open more than one disc tray at any one time.

3 Place the CDs on the disc tray, label side up.

- Be sure to place 8 cm (3") CDs in the middle of the disc trays.

Caution:
Do not place more than one CD in any tray position.
This can damage the player and the CDs.

4 Press the ⏏ button to close the disc tray.

- The CD DIRECT PLAY button will light for the tray loaded with a CD.
- Repeat steps 2 - 4 to load discs into the second and third disc trays.
- The total number of tracks and the total disc playing time will be displayed.
- The music schedule will be displayed only for the number of tracks on the disc.
- If the CD contains more than 21 tracks, ">" will appear.

5 Press the CD ▶II button.

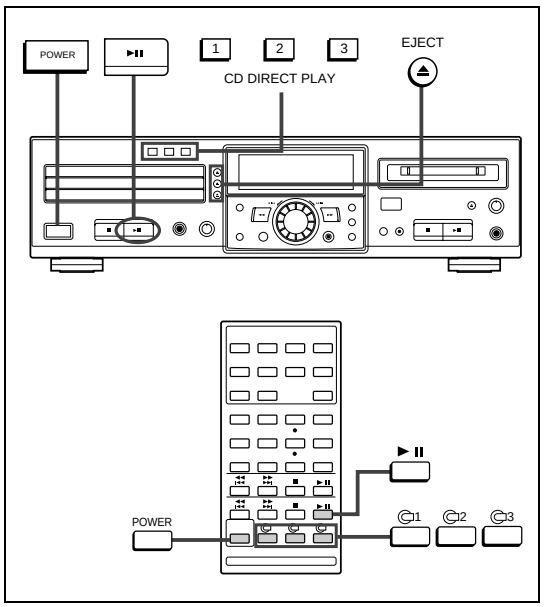
- Playback will begin from track 1 on the DISC-1.
- DISC-1, DISC-2 and DISC-3 will be played continuously in that order.
- If you press the CD DIRECT PLAY 2 (⟳ 2) button after pressing the CD ▶II button, DISC-2 and DISC-3 will be played continuously.
- If you press the CD DIRECT PLAY 3 (⟳ 3) button after pressing the CD ▶II button, only DISC-3 is to be played.
- If you press the CD ▶II button after selecting a track by turning the jog dial, playback will begin on DISC-1, from the track you selected.
- After the disc finishes playing, the next disc will be automatically played.
- When there is no CD in one of the disc trays, that tray will be skipped, and the next CD will be played.
- When all of the tracks on the CDs have been played, the unit will stop automatically.

To interrupt playback:
Press the CD ▶II button.
Press the CD ▶II button to resume playback from the same point.

To stop playback:
Press the CD ■ button.

To remove the CDs:
While in the stop mode, press the ⏏ button.

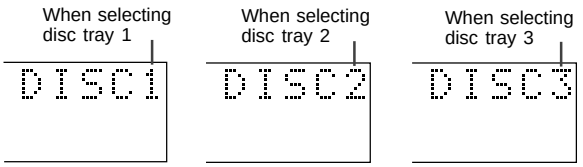
(Continued)



■ When choosing a CD for playback

Press one of the CD DIRECT PLAY 1 - 3 (1 - 3) buttons to select the CD you want to listen to.

- Only the selected CD will be played back.



Notes:

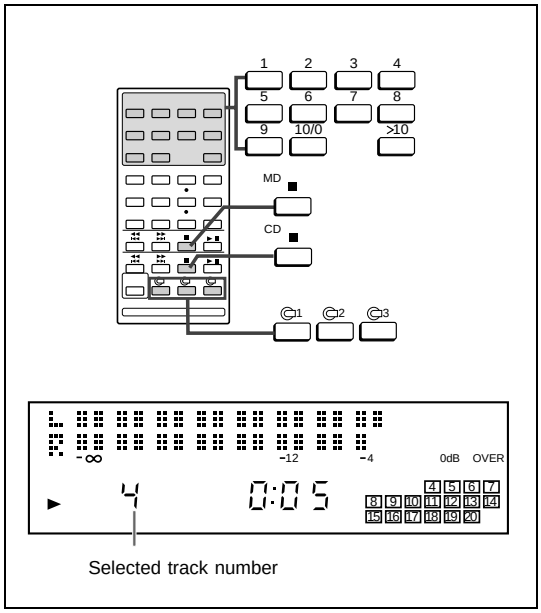
- If any disc tray is open, it will be automatically closed.
- If the CD ▶ ❚❚ button is pressed, continuous playback will be performed from the first track of disc 1, even after disc 2 or disc 3 has been selected.

Direct playback:

If a CD is loaded in the unit, pressing the CD ▶ ❚❚ button or any of the CD DIRECT PLAY 1 - 3 (1 - 3) buttons turns the power on and begins playback.

Cautions:

- Do not carry the unit while CDs are in the trays or a MiniDisc is loaded. The discs may come loose inside the unit and be damaged or cause damage to the unit. This may also cause malfunctions.
- Do not place two CDs in one disc position.
- Do not push the disc trays while they are moving.
- Do not attempt to push the disc tray by hand. This may cause malfunctions.
- If the power fails while a tray is open, wait until the power supply returns or gently push the tray manually to close it.
- If the disc tray is stopped forcibly, "TRAY ERROR" will appear in the display and the unit will not function.
  If this occurs, turn off the POWER button and turn it on again.
- If TV or radio interference occurs during CD operation, move the unit away from the TV or radio.
- If a disc is damaged, dirty, or loaded upside down, the disc will be skipped and the next disc will automatically play.
- Do not use CDs with tape or loose labels on them, or CDs which have a sticky surface left by tape or labels that have peeled off. If such a CD is inserted, you may not be able to remove the CD or the unit may malfunction.
- If the CD ▶ ❚❚ button, any of the CD DIRECT PLAY 1 - 3 (1 - 3) buttons or the ⏏ button is pressed when a disc tray is open, the disc tray will be automatically closed. Be careful not to catch your finger.



■ Direct-selection play (remote control operation)

By using the track number input buttons on the remote control, you can play any track you wish directly.

1 Select the desired program source, CD or MD, by pressing the CD ■ or MD ■ button.

2 Select the disc to be played by pressing one of the 1 - 3 buttons. (Only for CD playback)

3 Use the track number input buttons to enter the desired track number.

A. To enter track numbers 11 to 99

Press the >10 button first, then press the track number.

For example to select 28:

1 Press the >10 button.

2 Within 5 seconds, press the "2" button.

3 Within 5 seconds, press the "8" button.

B. To select tracks numbered 100 or higher (only for MDs)

Press the >10 button twice, then enter the track number.

For example to select 105:

1 Press the >10 button.

2 Within 5 seconds, press the >10 button.

3 Within 5 seconds, press the "1" button.

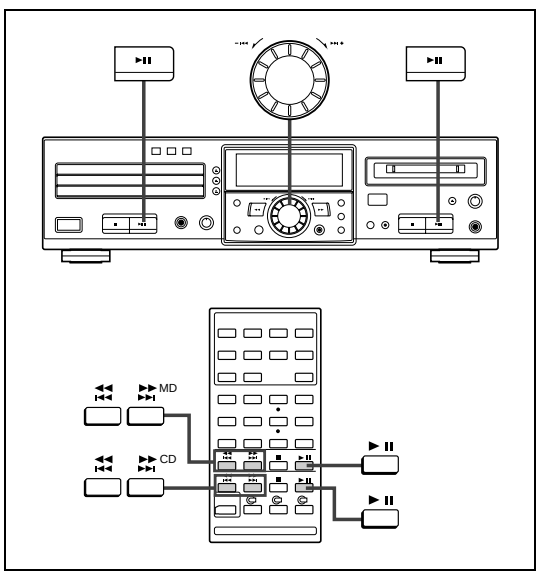
4 Within 5 seconds, press the "10/0" button.

5 Within 5 seconds, press the "5" button.

The beginning of the selected track will be found, and play will begin automatically.

Notes:

- You cannot select a track number higher than the number of tracks on the disc.



■ APSS (Auto Program Search System)

APSS automatically locates the beginning of each track.

To move to the beginning of the next track:

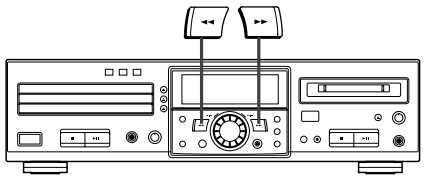
During playback ... Turn the jog dial clockwise.
Or press the ▶▶| button on the remote control.

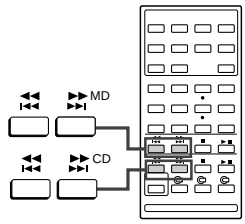
To restart the track being played:

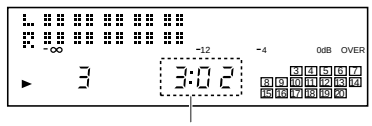
During playback ... Turn the jog dial counterclockwise.
Or press the |◀◀ button on the remote control.

When using the jog dial while in the stop mode:

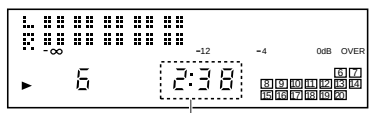
Every time the jog dial is turned (or each time the |◀◀ or ▶▶| button on the remote control is pressed), the track number will go up or down by one. If you press the ▶II button, playback will begin from the track being displayed.



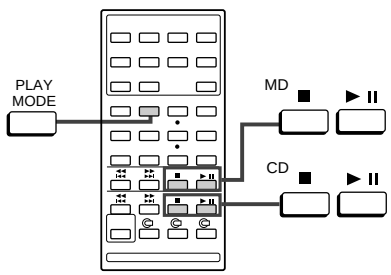




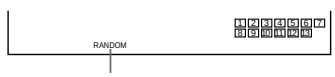
The elapsed playing time is reduced.



The elapsed playing time is increased.



"REPEAT" indicator



"RANDOM" indicator

■ Cue and review

Hold down the ▶▶ button during playback for audible fast forward, or hold down the ◀◀ button during playback for audible fast reverse.

- Normal playback will resume when the ◀◀ or ▶▶ button is released.
- When the beginning of the first track is reached, normal playback will start.
- When the end of the last track is reached, "DISC END" will light, and the unit will pause.
  If you want to listen to a portion of a track again, press and hold the ◀◀ button to return to the point in the track you want to listen to. Normal playback will start from that point.

To search very quickly:

When fast forward or fast reverse is used while in the pause mode, the playback point will move more quickly than when using audible fast forward or audible fast reverse playback.

- In this mode, no sound is heard. Therefore, you must refer to the time display.
- When you lift your finger, the unit will re-enter the pause mode.

■ Repeat play and random play

(Remote control operation)

1 Select the desired program source, CD or MD, by pressing the CD ■ or MD ■ button.

2 Press the PLAY MODE button.

- Each time this button is pressed, the mode will change in the following order:
  Repeat play → Random play → Normal play

3 Press the ▶II button to start playback.

- When all of the tracks have been played in random order, the unit will stop automatically.

To stop playback:

Press the CD ■ or MD ■ button.

To cancel repeat play or random play:

Press the PLAY MODE button until "↻" or "RANDOM" disappears.

To repeat playback of selected tracks:

Enter the program for the tracks you want and start repeat play. You can program a single track and play it repeatedly.

Notes:

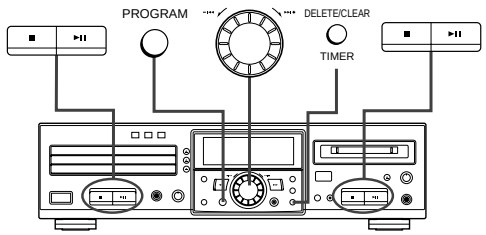
- During APMS play, random play is not possible.
- When repeat or random play is selected while a CD or MD is playing, repeat or random play will start at that point.

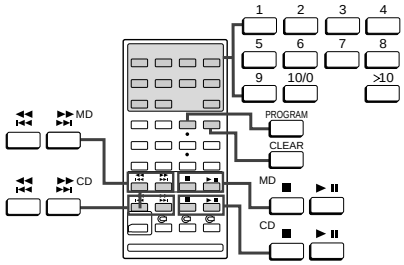
When more than one CD is inserted:
When you press the CD ▶II button ...

- All of the CDs in the unit will be played repeatedly or randomly. (Playback will continue until the unit is stopped manually.)

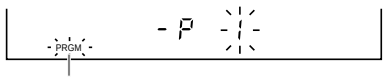
If you press any of the ⓒ1 - ⓒ3 buttons:
Only tracks from the selected CD will be played repeatedly or randomly.

- When all of the tracks have been played in random order, the unit will stop. (None of the tracks is played twice.)



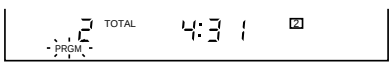


2

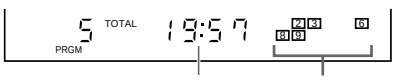


"PRGM" indicator

4



6

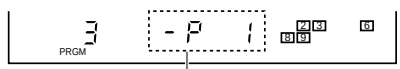


Total playing time

Selected track number

7

"PRGM" will disappear.



The playing time will appear about 2 seconds later.

■ APMS (Automatic Programmable Music Selector)

1 Select the desired program source, CD or MD, by pressing the CD ■ or MD ■ button.

2 Press the PROGRAM button while in the stop mode.

- Programs cannot be set or canceled while in the playback or pause mode.

3 If you have selected CD, press one of the buttons (⊖1 - ⊖ 3) to select the disc to be played.

4 Select a desired track number by pressing the DIRECT KEY button on the remote control.

- If the total program playing time exceeds 199 minutes and 59 seconds, "— : —" will appear. However, the programmed selections will still be memorized.

5 Repeat steps 3 and 4 for any other tracks. Up to 20 MD tracks or 32 CD tracks can be programmed.

- To select a track on an MD or on the same CD, skip step 3.
- The programmed playback order and the total playing time of the programmed tracks will be displayed automatically, and only those track numbers will appear in the music schedule.

6 Press the CD ■ or MD ■ button.

7 Press the CD ▶❙❙ or MD ▶❙❙ button to start playback of the programmed selections.

- After all of the programmed tracks have finished playing, the unit will automatically stop.

To clear the programmed selections:

Press the DELETE/CLEAR (CLEAR) button while the "PRGM" indicator is flashing.

- Each time the button is pressed, one track will be cleared, beginning with the last track programmed.

To cancel the APMS:

While the unit is stopped in the APMS mode, press the CLEAR button on the remote control to turn off "PRGM".

When you use the DELETE/CLEAR button on the main unit, all of the programmed contents will be erased by holding it down for at least 2 seconds. (If you simply press this button briefly, the unit will enter the timer mode.)

- The program contents will be erased.
- When you open the disc tray or a MiniDisc is removed, the APMS mode will be canceled.

To check which tracks are programmed:

While the unit is stopped in the APMS mode, turn the jog dial. Or press the |◀◀ or ▶▶| button on the remote control.

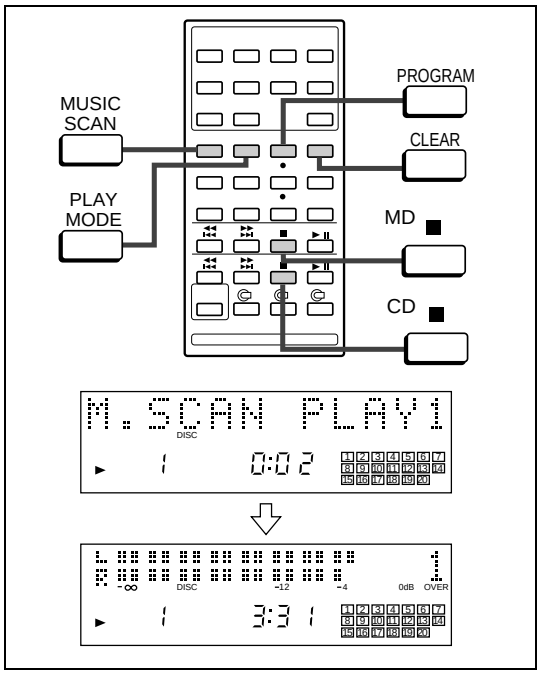
- When the jog dial is turned clockwise, the next track number will appear. When it is turned counterclockwise, the previous track number will appear.

To add tracks to the APMS:

When a program has been entered ("PRGM" will be lit), perform steps 2 - 6. Additional tracks can be selected and they will be stored after the last track you entered.

Notes:

- It is not possible to insert an additional track between programmed tracks that have already been entered.
- Programming and canceling are not possible during playback or in the pause mode.



■ Music scan play

(Remote control operation)

1 Select the desired program source, CD or MD, by pressing the CD ■ or MD ■ button.

2 Press the MUSIC SCAN button while in the stop mode.

- "M.SCAN PLAY" will appear.
- Starting from the first track, approximately the first 12 seconds at the beginning of each track will be played.
- After the last track has been played, the unit will stop automatically.
- When one or more CDs are inserted and music scan play is started, all of the tracks on all of the CDs will be played in order, until the last track on the last CD is reached. Then the unit will stop.
  You cannot select just one of the discs for music scan play.

To stop music scan play:

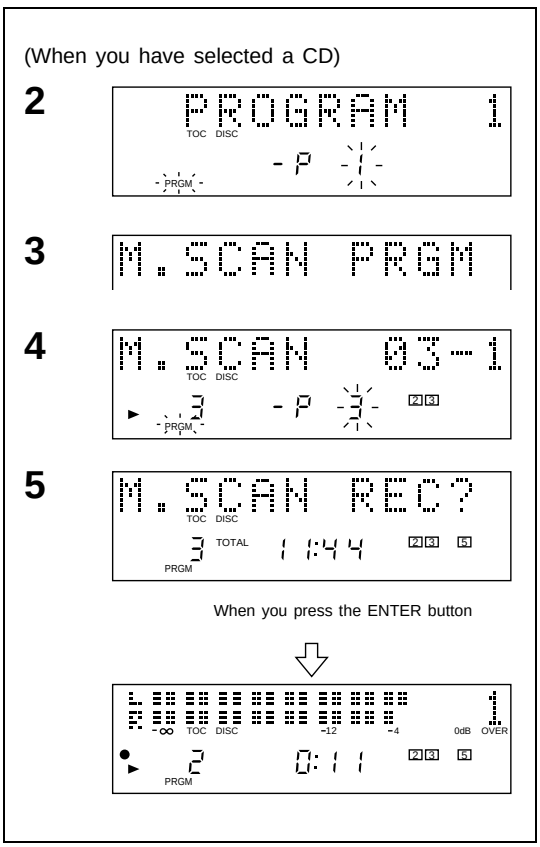
Press the CD ■ or MD ■ button.

To perform music scan play repeatedly:

During music scan play, press the PLAY MODE button until "⮌" appears.

Note:

- You can also select repeat play before music scan play.



To program selected tracks during music scan play: (Music scan program selection)

During music scan play, the current track being previewed can be stored in memory.

1 Select the desired program source, CD or MD, by pressing the CD ■ or MD ■ button.

2 Press the PROGRAM button.

- "PRGM" will flash.

3 Press the MUSIC SCAN button.

- "M.SCAN PRGM" will appear.

4 Press the PROGRAM button while playing the beginning of a track to be stored in memory.

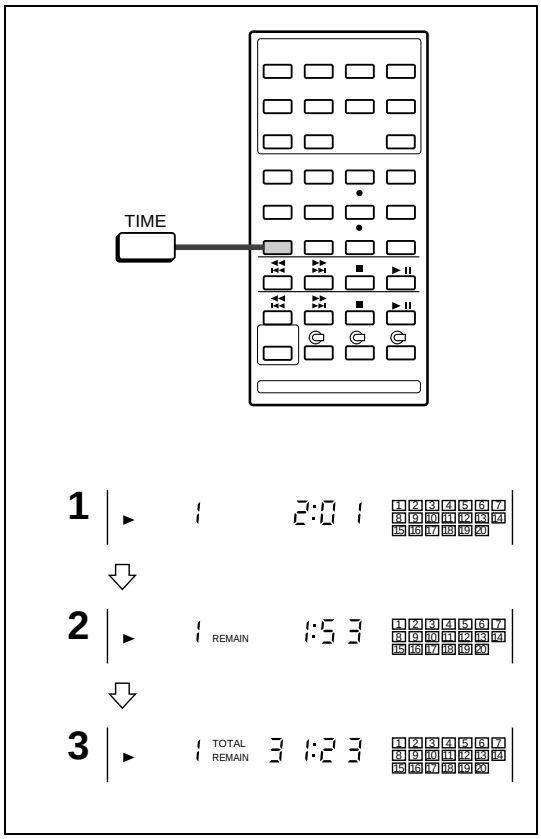
5 To halt the program, press the CD ■ or MD ■ button.

- When you have selected an MD, the unit will enter the stop mode.
- When you have selected a CD, "M.SCAN REC?" will appear. To halt the program, press the CD ■ button again.
  When you press the ENTER button on the main unit while "M.SCAN REC?" is displayed, you can record the programmed tracks.

To clear the programmed selections:

Press the CLEAR button on the remote control to turn off "PRGM".
When you use the DELETE/CLEAR button on the main unit, all of the programmed contents will be erased by holding it down for at least 2 seconds.

- The program contents will be erased.



■ Switching the time display

(Remote control operation)
Each time the TIME button is pressed while in the playback or pause mode, the display will change as described below.

See the diagram to the left.

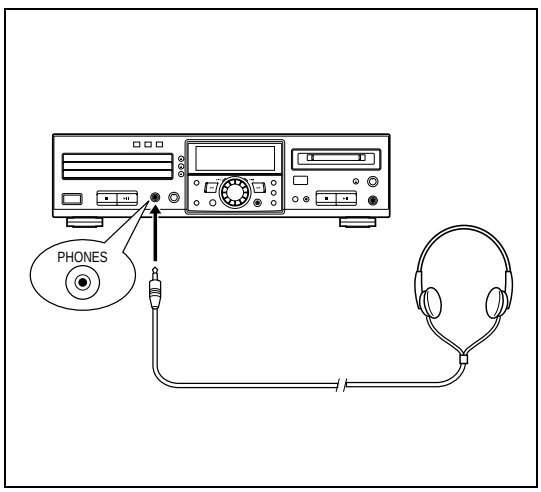
1 The elapsed playing time for each track will be displayed.

2 The remaining playing time for the current track will be displayed.

3 The total remaining playing time for the disc from the point being played at that time will be displayed.

Notes:

- During random play, only the elapsed playing time for each track will be displayed. The display cannot be switched.
- Depending on whether a CD or MD is playing, the playing time display may not match the playing time which is indicated on the CD or MD jacket, because the time between the tracks is not included.



■ Connecting headphones

This unit can be used with commercially available headphones. Plug them into the PHONES jack on the front of the unit.

About headphones
Be sure that your headphones have a 1/4" (6.3 mm) diameter plug and between 16 ohms and 50 ohms impedance. The recommended impedance is 32 ohms.

■ Listening to music through headphones

When headphones are connected to the unit and a MiniDisc is played, you can hear the recording.

- It is not necessary to supply power to any other equipment, such as a stereo, which is connected to the unit.

To adjust the headphone volume:

Rotate the PHONE LEVEL control toward MAX to increase the volume, and toward MIN to decrease the volume.

RECORDING

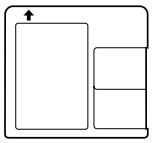
■ Differences from tape recordings

You cannot record music on the reverse side of a MiniDisc.

MiniDiscs cannot be incorrectly inserted, i.e. upside down. (Page 40)

You don't need to search for the starting point at which to record.

The unit automatically finds the point at which recording can start. Recording will start from that point.



You can check the total or remaining recordable time (possible recording) before recording.

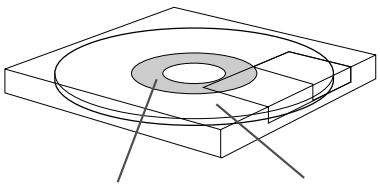
This lets you plan a recording session so that the last song will not come to an abrupt end before it has finished. (Page 20)

The date and time of a recording are automatically saved with the recording.

If you have set the date and time, they will be automatically recorded when a recording is made. (Page 10)

■ Disc writing (TOC)

MiniDiscs have one area which the sound is recorded and another area where track number, track name, and disc name information is recorded.



Area for recording track numbers, track names, etc.

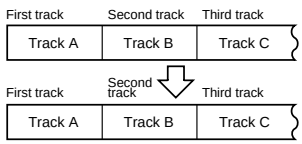
Area for recording the sound

First the sound is recorded on a MiniDisc, and then the information (TOC: Table of Contents) for finding the tracks is recorded. This TOC is vitally necessary for playback. Tracks can be edited by rewriting the TOC. When the POWER button is pressed to turn the power off or when the ⏏ button is pressed to remove the Minidisc, the current version of the TOC will be written on the disc. Therefore, after pressing the POWER button, do not jar the main unit. It may not be possible to perform playback properly if the TOC is not written correctly on the disc.

■ Track numbers are created automatically

When recording from another CD or MD using the digital connectors

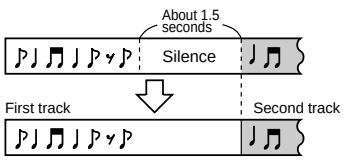
When you make a digital recording from a CD player or another MD player, new track numbers will be created automatically for each track, regardless of the amount of silence between tracks. (Synchro marker function)



- When you record from a CD to a Minidisc, the track numbers recorded on the MiniDisc may not match the track numbers on the CD.
- When recording from digital equipment such as DAT tape recorders, the synchro marker function will not work. The auto marker function will work the same way it does when recording from an analog input.
- When a DAT is recorded using the digital inputs and the DAT mode (sampling frequency) changes during the recording session, the track numbers will change.
  Very occasionally, some noise may be recorded.
  If this happens, you can edit out the noise after recording. (Page 25)

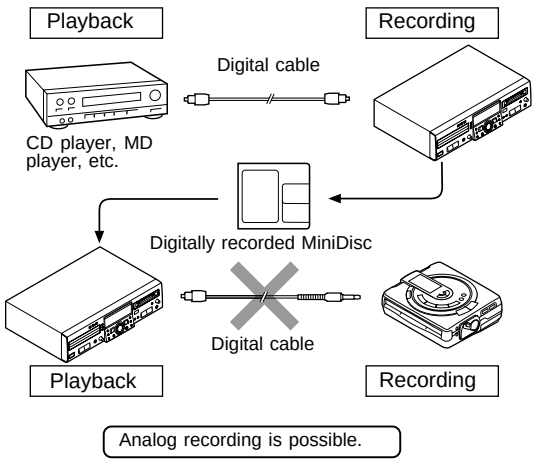
When recording from analog inputs

When making an analog recording, if there is 1.5 seconds or more of silence, the blank space is assumed to be the space between tracks, and a new track number will be created automatically.
This is called the auto marker function.
By creating track numbers, you can locate the beginning of the tracks.



- If you do not use the auto marker function, you can record musical selections as a single track.

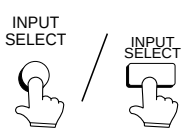
■ Note about making digital copies



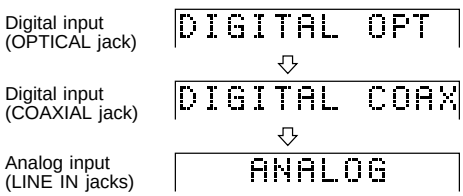
MiniDiscs are designed so that second generation digital copies cannot be made. This is a specification of the SCMS (Serial Copy Management System).

■ How to select the inputs

Press the INPUT SELECT button to select the input from which you want to record.



Each time the INPUT SELECT button is pressed, the input mode will appear for 1.5 seconds in the Character Information Display. Then, the display will return to the normal mode.



- Each time the button is pressed, the active input will be changed.

About the recording level

■ **When making a digital recording:**

The recording level is automatically set the same as the level of the original.
It is not necessary to adjust the recording level.

■ **When recording from analog inputs:**

Before recording, adjust this unit's recording level. (Page 22)

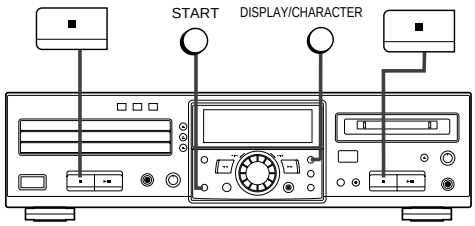
- When this unit is connected to the headphone jack of some other equipment, the playback level of the other equipment should also be adjusted.
- When this unit is connected to line jacks on the other equipment, it is not necessary to adjust the playback level of the other equipment. (The playback volume of the other equipment will not have any effect on the recording.)

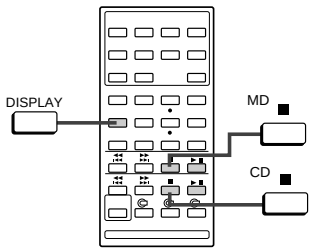
Recordings cannot be made in the following situations.

- If you try recording on a playback-only MiniDisc (commercially available music)
- If a MiniDisc is protected against accidental erasure (Page 39)
- If there is no more recording time left on the disc (Page 20)
- When the "TOC FULL" message appears (Page 42)
- If a disc's TOC has been damaged
- If you are trying to copy a digital signal that has been encoded with the SCMS signal (Serial Copy Management System)

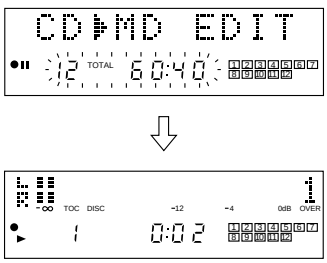
Note:

- When recording important selections, be sure to make a preliminary test to ensure that the desired material is being properly recorded.





3



Number of tracks that cannot be recorded

Number of tracks that can be recorded

Number of tracks already recorded

Recordable time
(39 minites and 14 seconds)

"MONO LP" indicator

"MONO LP" will disappear.

■ Recording from a CD onto a MiniDisc (One-Touch Editing)

1 Press the CD ■ button.

2 Load a compact disc and a recordable MiniDisc.

- The total number of tracks and the total playing time on the CD will be displayed.

3 Press the START button.

- Playback of the first track and recording will begin.
- When all discs are recorded, recording will automatically stop.

If recording does not begin:

When discs are loaded in all of the disc trays 1 - 3 and if all of the tracks on the discs cannot be recorded, the number of tracks that cannot be recorded will be displayed, and the CD DIRECT PLAY button for the disc that cannot be recorded will flash. Then, the number of tracks that can be recorded will appear, and the CD DIRECT PLAY buttons for the discs that can be recorded will light. Then, the unit will enter the recording stand-by mode.

Press the START button.

- Recording will begin, starting from the first track on disc tray 1.
- After recording all of the tracks that can be recorded, the unit will automatically stop.

To stop recording:

Press the CD ■ or MD ■ button.

- It is not possible to pause recording.

To check the remaining time available for recording:

1 Load a MiniDisc.

2 Press the MD ■ button.

3 Press the DISPLAY/CHARACTER (DISPLAY) button.

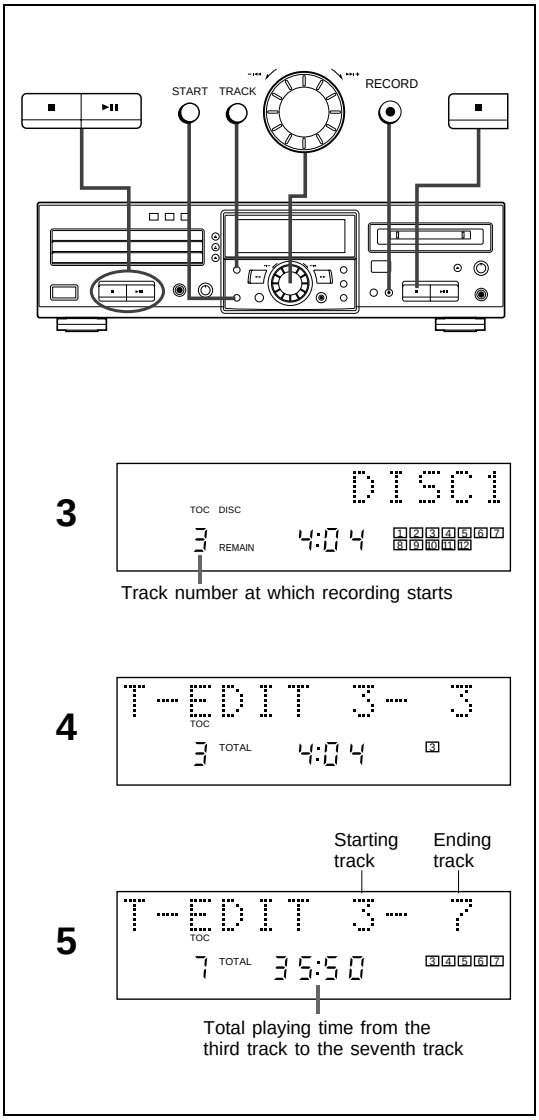
- The number of tracks that have already been recorded and the available time remaining will be displayed, and five seconds later the unit will return to the original display.

■ To record for a long time in the monaural mode (monaural long-play mode)

When a recording is made in the monaural long-play mode, it can be twice as long as the recording time available for a stereo recording. The monaural long-play mode is very useful for recording songs that were originally recorded in monaural, or for recording talk programs.

Press the REC MODE button on the remote control.

- Each time the button is pressed, the display will switch between the stereo mode and the monaural long-play mode.
- This mode cannot be changed while recording.
- The recording mode will not change back until you change it manually. After you have made a recording in the monaural long-play mode, it is recommended that you return the unit to the stereo mode so that you won't forget to do so later.



■ Recording desired tracks from a compact disc onto a MiniDisc (Track Editing)

1 Press the CD ■ button.

2 Load a compact disc and a recordable MiniDisc.

3 Select the track to start recording by turning the jog dial.

- The selected track number appears.

4 Press the TRACK button.

- To record a single track, skip to step 6.

5 Select the last track to record by repeatedly pressing the TRACK button.

6 Press the START button.

- Recording will start from the tracks selected in disc 1, disc 2 and disc 3, in that order. After recording, the CD and the MD will stop automatically.

To cancel the track edit operation:

Press the CD ■ button before pressing the START button.

To stop recording:
Press the MD ■ button.

- It is not possible to pause recording.

■ APMS recording

1 Select tracks for APMS playback. (Page 15)

2 Load a recordable MiniDisc.

3 Press the START button.

- APMS playback will start, and recording will start automatically.
- Programmed tracks will be recorded in order. After the unit has finished recording the last track, recording will stop automatically.

To stop recording:

Press the MD ■ button.

■ To record without using One-Touch Editing

Without using one-touch recording, the following operation allows you to record from the first track.

1 Press the CD ■ button.

2 Load a compact disc and a recordable MiniDisc.

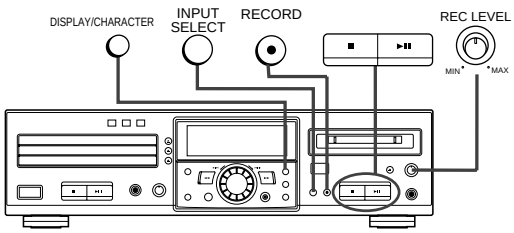
3 Press the REC ● button.

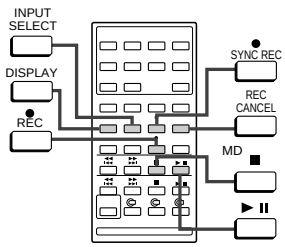
- The unit will enter the recording stand-by mode.

4 Press the CD ▶ ❚❚ button.

To stop recording:
Press the MD ■ button.

- After the track number has been written on the MiniDisc, the recording will stop. However, CD playback will continue.

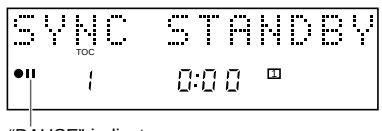




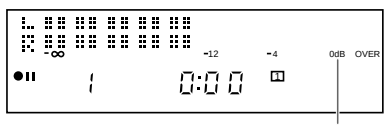
3

When the digital optical input is selected

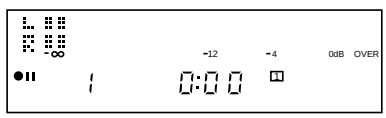
4



"PAUSE" indicator



0dB



■ Sound synchro recording

When music is played on another piece of equipment, such as a stereo, that is connected to this unit, this unit will automatically start recording on the MD.

1 Press the MD ■ button.

2 Insert a recordable MiniDisc.

3 Press the INPUT SELECT button to select the input. (Page 19)

- If you will be recording from the analog input, adjust the recording level after selecting the input.

4 Press the SYNC REC button on the remote control.

- The unit will enter the recording stand-by mode. "SYNC STANDBY" will appear.

5 Start playing the music you want to record using the other equipment.

- This unit will automatically start recording. When the other equipment has finished playback, this unit will enter the recording stand-by mode. Press the MD ■ button to cancel it.
- To stop recording at any time, press the MD ■ button.

To adjust the recording level: (Analog input only)

After you select analog input in step 3, press the RECORD (REC) button, and then play the music on the other equipment.

↓

Adjust the recording level using the REC LEVEL control.

- Adjust the recording level so that the maximum level does not exceed "0 dB".
- After the level is adjusted, stop the other equipment, and go to step 3.

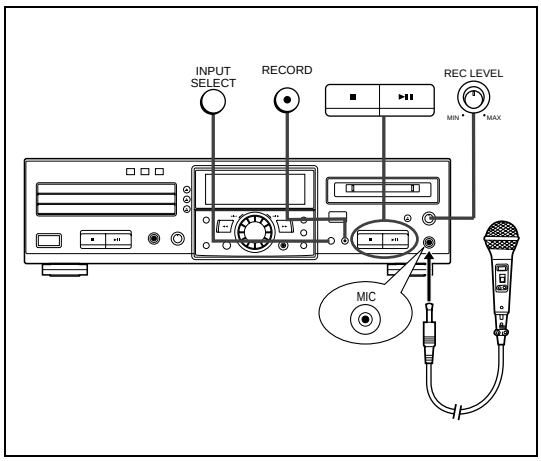
Manual recording:

Select the input, and then press the RECORD (REC) button.
- The unit will enter the recording stand-by mode.

Press the MD ▶II button.
- This unit will start recording.
- The space cut function will not work.

Space cut function:

- During sound synchro recording, if there are more than 3 seconds of silence in the playback sound, this unit will automatically enter the recording stand-by mode. ("SYNC STANDBY" will appear.) Then, when further playback is started on the other equipment, this unit will resume recording. (A silence of up to 3 seconds can be created between tracks.)
- If there is noise between the tracks on the original recording, the sound synchro recording or space cut function may not work properly. If this happens, use manual recording.
- When recording tracks or sounds in which there are 3 seconds or more of very small continuous sounds that you want to record, use manual recording.



■ Recording from the microphone

1 Connect the stereo microphone to the MIC jack on the main unit.

2 Insert a recordable MiniDisc.

3 Press the INPUT SELECT button until "ANALOG" appears.

4 Press the RECORD button.

- The unit will enter the recording stand-by mode.

5 Adjust the recording level using the REC LEVEL control.

- Adjust the recording level so that the maximum level does not exceed "0 dB".

6 Press the MD ▶II button.

- Recording will start.

To interrupt a recording:
Press the MD ▶II button while recording.

- The unit will enter the recording stand-by mode.
- To resume recording, press the MD ▶II button again.
- The track number will increase by one each time you interrupt a recording.

To stop recording:
Press the MD ■ button.

■ To re-record

When you want to re-record a track, erase the previously recorded track and start a new recording, or start recording from any point within the old track. If you start recording from within a track, all of the tracks and track names that follow will be erased. If you want to erase all of the tracks and re-record the disc, you can erase all of the tracks using the all erase function. Then you simply perform the normal recording operations. (Page 30)

1 During playback, press the MD ▶II button at the point where you want to begin re-recording.

- The unit will pause.

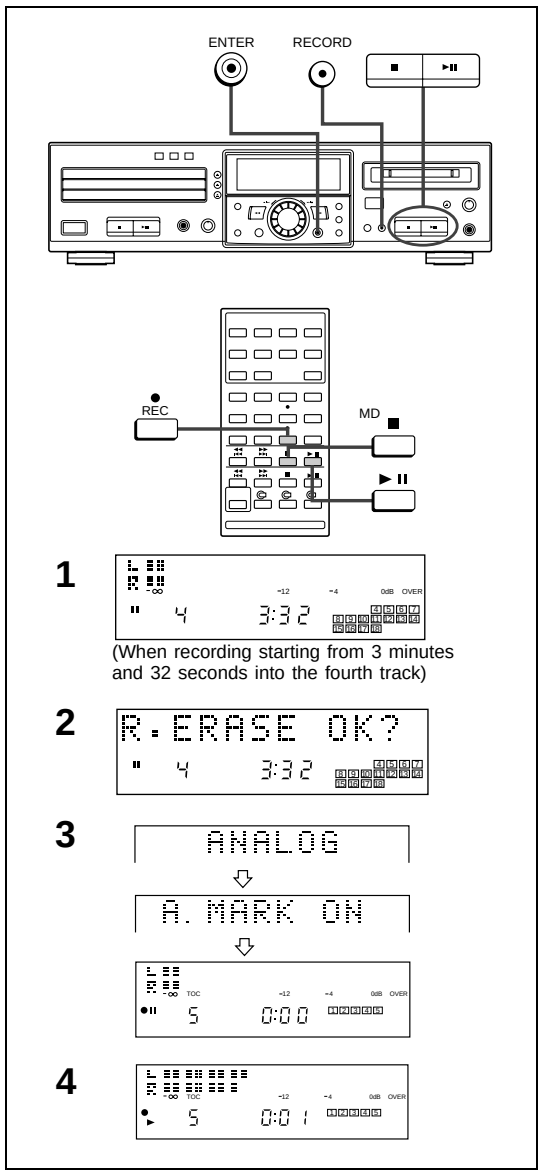
2 Press the RECORD (REC) button.

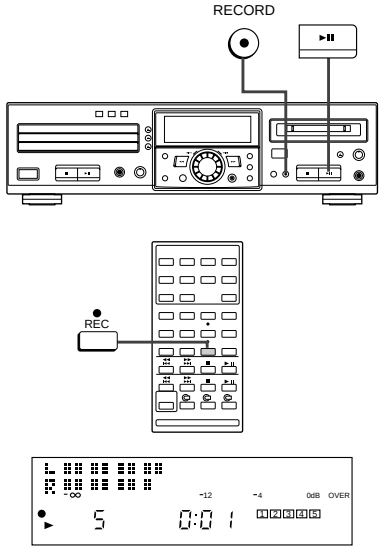
- To cancel the operation, press the MD ■ button.

3 Press the ENTER button.

- The unit will be in the recording pause mode.

4 Select the recording source and start recording.





● The track number increases by one.

■ To create your own track numbers while recording

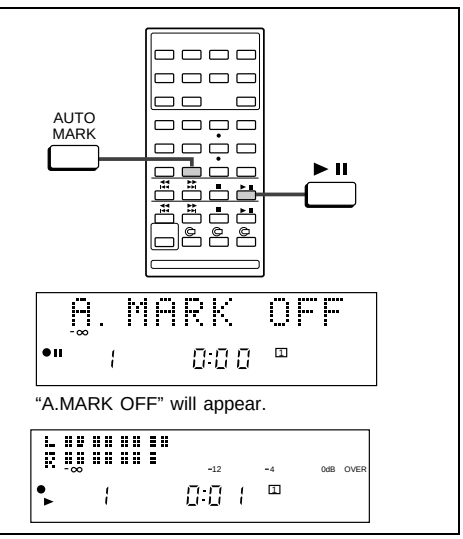
By creating your own track numbers while recording, you can mark them and later search for any passage you wish.
(You can also create your own track numbers during digital recording.)

Press the RECORD (REC) button during recording at the point where you want to create a track number.

● After the track number has been written on the disc, the recording will continue.

Note:

● If you use the MD editing function, the recorded track numbers can be changed, and the space between tracks can be changed. (Page 25)



"A.MARK OFF" will appear.

■ Recording tracks as a single track

(Remote control operation)
When making an analog recording, you can record several pieces of music as a single track, without using the auto marker function.

1 Press the AUTO MARK button on the remote control while the recording is paused.

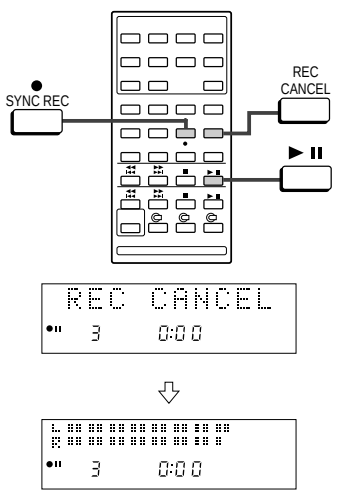
● "A.MARK OFF" will appear.

2 Press the MD ▶II button.

● This unit will start recording.

Note:

● When making digital recordings using a CD player or an MD player, track numbers will be created automatically regardless of the setting of the auto marker function.



■ To cancel the selection currently being recorded (Rec cancel)

While making the following recordings, you can erase any tracks you don't want to record.

● While making a sound synchro recording

● While making a normal recording from an external unit, using the auto marker function

● While making a recording from a CD without using the track edit or one-touch edit function

Press the REC CANCEL button while recording.

● The selection currently being recorded will be erased from the MD and the unit will enter the normal recording stand-by mode.
(The playback on the other unit will not stop.)

● While a track is being erased, the sound from the other unit will not be heard.

To resume recording:
Press the MD ▶II button.

● To resume sound synchro recording, press the SYNC REC button.

Note:

● The track currently being recorded cannot be canceled while you are making an APMS or random recording from a CD.

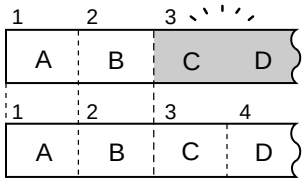
EDITING

We will explain the 5 editing features you can use to create your own original MiniDiscs.
Playback-only MiniDiscs cannot be edited.

DIVIDE

A track can be divided into two tracks. If two selections were recorded as a single track because there was not enough silent space between the pieces, you can use the DIVIDE function to separate the selections.
This feature is also convenient for identifying specific points with one selection so that you can locate those points easily whenever you like.

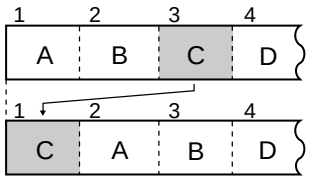
(Page 27)



MOVE

The order of the recorded tracks can be changed. This feature is different from program play. A new track order can be recorded directly on the disc. When the power is turned off, the revised order will not be changed.

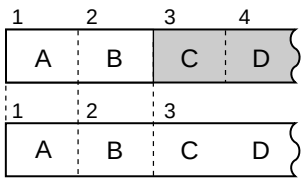
(Page 29)



COMBINE

Two adjacent tracks (for example, the third and fourth tracks) can be combined.
If there is a prolonged silent section in the middle of a selection that is recorded, a single piece of music may be recorded as two tracks. If this happens, these two tracks can be combined into a single track.

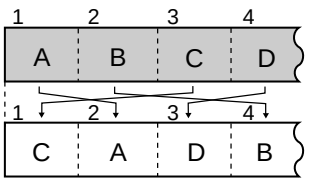
(Page 28)



Program move function

This function allows the track numbers to be automatically rearranged in the order specified for programmed playback. The track numbers will be adjusted as needed, automatically.
(The tracks that are not included in the programmed selections will be put at the end of the new track numbers.)

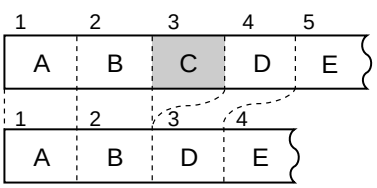
(Page 29)



ERASE

Tracks you want to erase can be erased one at a time or all at once.
Once a track has been erased, it cannot be recovered. Double-check the track number before erasing it.

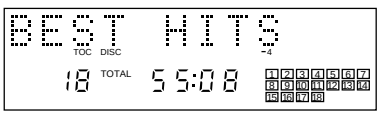
(Page 30)



TRACK/DISC NAME

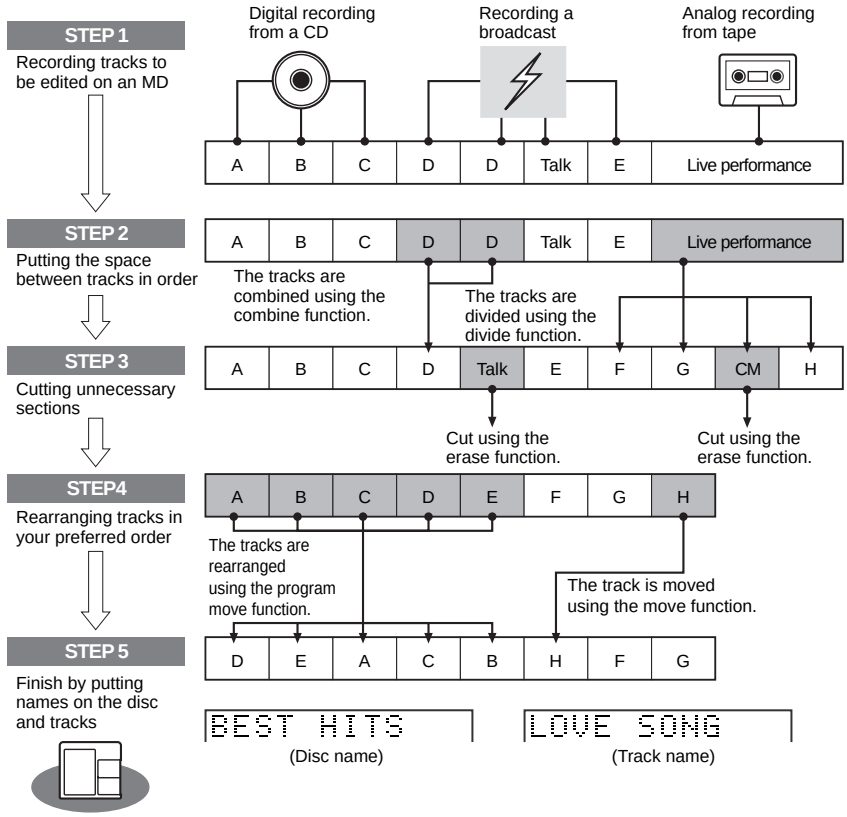
You can assign titles to recorded tracks and to discs. The characters must be capital and lowercase letters, or symbols. Track and disc names can use up to 100 characters per name.

(Page 31)

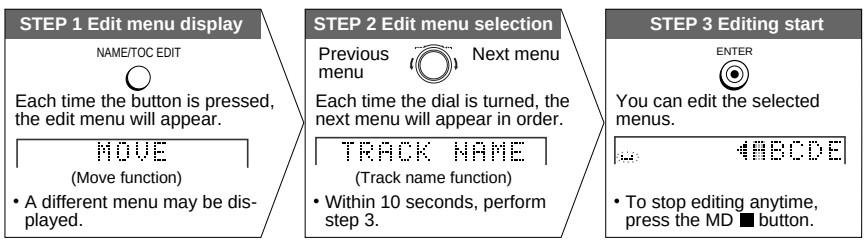


■ Using the editing function

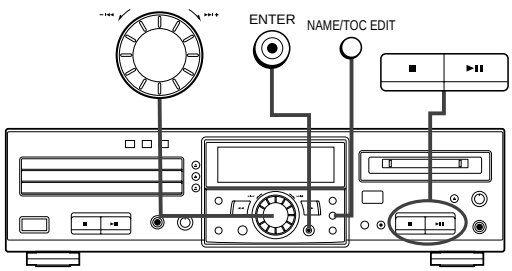
We will show you some examples of how to use the editing functions. You can create a disc of your favorite selections by recording tracks from a variety of input sources such as CDs, tapes, and radio broadcasts.


STEP 1
Recording tracks to be edited on an MD
Digital recording from a CD
Recording a broadcast
Analog recording from tape
A B C D D Talk E Live performance
STEP 2
Putting the space between tracks in order
The tracks are combined using the combine function.
The tracks are divided using the divide function.
STEP 3
Cutting unnecessary sections
A B C D Talk E F G CM H
Cut using the erase function.
Cut using the erase function.
STEP4
Rearranging tracks in your preferred order
A B C D E F G H
The tracks are rearranged using the program move function.
The track is moved using the move function.
STEP 5
Finish by putting names on the disc and tracks
D E A C B H F G
BEST HITS
(Disc name)
LOVE SONG
(Track name)

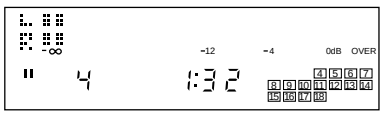
The editing functions are selected from the edit menu. The functions which can be selected from the edit menu will vary, depending on the state in which an editing operation is started.


STEP 1 Edit menu display
NAME/TOC EDIT
Each time the button is pressed, the edit menu will appear.
MOVE
(Move function)
• A different menu may be displayed.
STEP 2 Edit menu selection
Previous menu
Next menu
Each time the dial is turned, the next menu will appear in order.
TRACK NAME
(Track name function)
• Within 10 seconds, perform step 3.
STEP 3 Editing start
ENTER
You can edit the selected menus.
ABCDE
• To stop editing anytime, press the MD ■ button.

This function	Can be selected in the following conditions.					
	When stopped (The total number of tracks appears)	When stopped (Selection of track numbers)	During playback	Playback in the pause mode	During recording/ in the recording stand-by mode	When entering a program
Disc name	Yes	No	No	No	No	No
Track name	No	Yes	Yes	Yes	Yes	No
Divide	No	No	No	Yes	No	No
Combine	No	Yes	No	Yes	No	No
Move	No	Yes	No	Yes	No	No
Program move	No	No	No	No	No	Yes
Erase	No	Yes	No	Yes	No	No
All erase	Yes	No	No	No	No	No

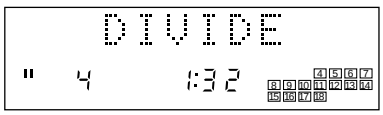


1

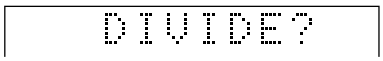


(To divide the fourth track into two)

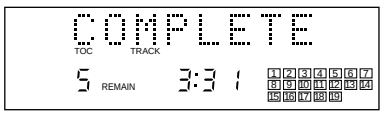
2



3



4



■ DIVIDE

1 Play the track which you want to divide into two, and press the MD ▶II button at the point where you want to divide the track.

- The unit will enter the pause mode.

2 Press the NAME/TOC EDIT button, and then select “DIVIDE” using the jog dial.

3 Within 10 seconds, press the ENTER button.

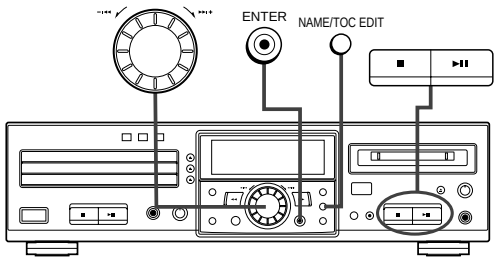
- To cancel the operation, press the MD ■ button.

4 Press the ENTER button again.

- The track is divided, and the unit is paused at the beginning of the second of the two tracks.
- The numbers of the tracks which come after the divided track are automatically increased by one.
- When a track which has been given a name is divided, the two new tracks will have the same name and date. If the “TOC FULL” message is seen, the second track may not be given a name. (Page 42)

Notes:

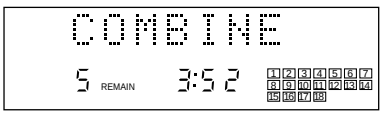
- This unit can hold up to 255 tracks. However, even if the number of tracks assigned has not reached 255, it might not be possible to make any further divisions of tracks. (Page 40)
- This function cannot be used while in the program ("PRGM" is lit: Page 15) or random play mode ("RANDOM" is lit: Page 14). First, cancel the program or random play mode before trying to use this function.



1

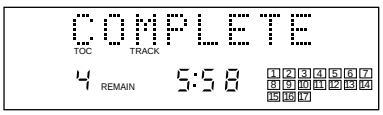
(To combine the fourth track and the fifth track)

2



3

4



■ COMBINE

1 While in the stop mode, select the second of the two tracks you want to combine using the jog dial.

Or start playing the second of the two tracks you want to combine, and then press the MD ▶II button.

- The unit will enter the pause mode.

2 Press the NAME/TOC EDIT button, and then select “COMBINE” using the jog dial.

3 Within 10 seconds, press the ENTER button.

- To cancel the operation, press the MD ■ button.

4 Press the ENTER button again.

- The two tracks are combined, and the unit is paused at the beginning of the combined track.
- The numbers assigned to the tracks following the combined track are automatically decreased by one.

When both tracks have a name:

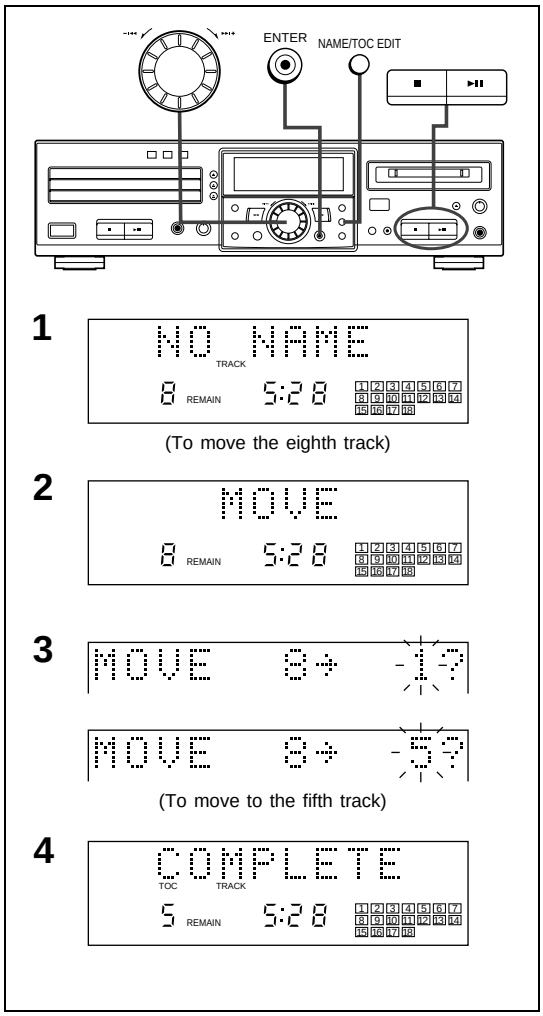
- When only the first track has a name → That name will be used.
- When only the second of the two tracks has a name → That name will be used.
- When both tracks have a name → The name of the first track will be used.

To combine two non-continuous tracks:

(Example: the first and third tracks)
Move the third track to the second track using the MOVE function. (Page 29)
Then, combine the first and second tracks using the COMBINE function.

Notes:

- Tracks recorded from analog inputs cannot be combined with tracks recorded from CDs or MDs using the digital inputs.
- Tracks recorded in the stereo mode cannot be combined with tracks recorded in the monaural long-play mode.
- Tracks where either track’s recording time is less than 15 seconds may not be combined.



■ MOVE

1 While in the stop mode, select the track you want to move using the jog dial.

Or start playing the track to be moved, and then press the MD ▶❙❙ button.

- The unit will enter the pause mode.

2 Press the NAME/TOC EDIT button, and then select “MOVE” using the jog dial.

3 Within 10 seconds, press the ENTER button.

- To cancel the operation, press the MD ■ button.

4 Select the direction to move the track using the jog dial or the |◀◀/▶▶| button on the remote control.

- To increase the track number .... ▶▶|
- To decrease the track number .... |◀◀

5 Press the ENTER button again.

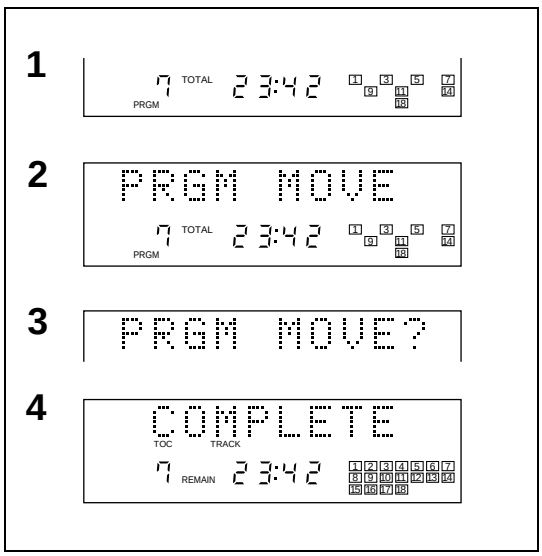
- The track is moved, and the unit is stopped at the beginning of the track.

Notes:

- When a track has been moved, the other tracks which are affected will be assigned new track numbers automatically.

Example: When moving the fifth track to the third track, the old third track will become the new fourth track, and the old fourth track will become the new fifth track.

- This function cannot be used while in the program ("PRGM" is lit: Page 15) or random play mode ("RANDOM" is lit: Page 14). First, cancel the program or random play mode before trying to use this function.



■ Programmed move

1 Select the tracks you want to move and enter them into a program. (Page 15)

2 Make sure that the “PRGM” indicator is lit, and then press the NAME/TOC EDIT button.

- “PRGM MOVE” will appear.

3 Within 10 seconds, press the ENTER button.

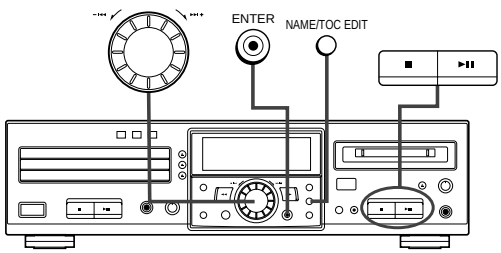
- To cancel the operation, press the MD ■ button.

4 Press the ENTER button again.

- The tracks will be moved, and the programmed move mode will end.

Notes:

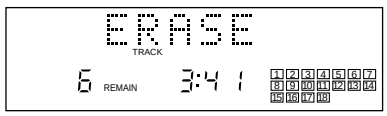
- The tracks that are not included in the programmed selections will be put at the end of the new track numbers.
- When the same track has been entered into the program twice or more, the last programmed position will have priority.



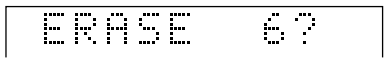
1

(To erase the sixth track)

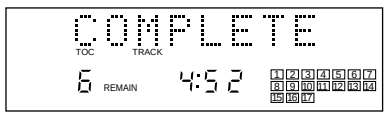
2



3



4



■ ERASE

To erase tracks one at a time:

1 While in the stop mode, select the track to be erased using the jog dial.

Or start playing the track which you want to erase, and press the MD ▶II button.

- The unit will enter the pause mode.

2 Press the NAME/TOC EDIT button, and then select “ERASE” using the jog dial.

3 Within 10 seconds, press the ENTER button.

- To cancel the operation, press the MD ■ button.

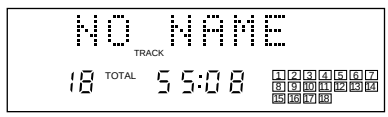
4 Press the ENTER button again.

- The track is erased, and the unit is paused at the beginning of the previous track.

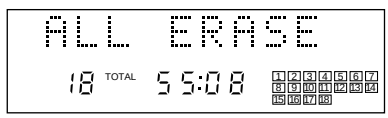
Notes:

- Once a track has been erased, it cannot be recovered. Double-check the track number before erasing it.
- When a track is erased, the numbers assigned to the tracks following the erased track will be automatically decreased by one.
- When a track is erased, the track name will be erased at the same time.

1



2



3

4

To erase all of the tracks at once:

1 Press the MD ■ button.

- The total number of tracks and the total playing time for the MD will be displayed.

2 Press the NAME/TOC EDIT button, and then select “ALL ERASE” using the jog dial.

3 Within 10 seconds, press the ENTER button.

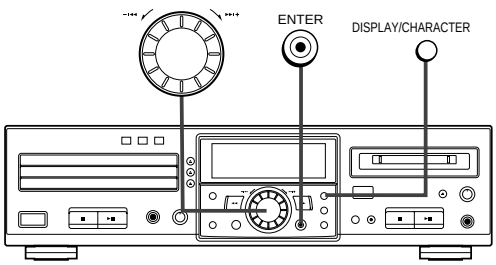
- To cancel the operation, press the MD ■ button.

4 Press the ENTER button again.

- All of the track numbers and track names will be erased.

Note:

- This function cannot be used while in the program ("PRGM" is lit: Page 15) or random play mode ("RANDOM" is lit: Page 14). First, cancel the program or random play mode before trying to use this function.



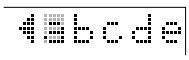
STEP 1

DISPLAY/CHARACTER

Each time the button is pressed, the available characters will switch as follows:

Alphabet (capital letters)

Alphabet (lower-case letters)

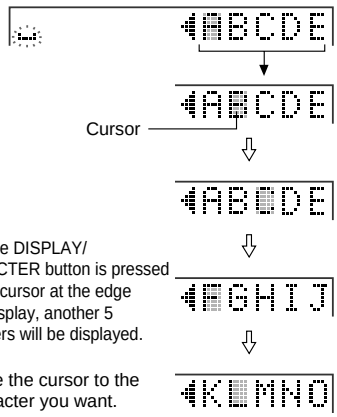


Numbers or symbols

STEP 2

Previous character Next character

Each time the dial is turned, the cursor (■) over the character will move.



When the DISPLAY/ CHARACTER button is pressed with the cursor at the edge of the display, another 5 characters will be displayed.

Move the cursor to the character you want.

STEP 3

ENTER

The selected character will be entered in the character input column.

■ Track/disc name

- Up to 255 tracks can be named on each disc, and each disc can be given a disc name.

When naming discs and tracks, the characters should be entered as follows:

To select the type of characters: (STEP 1)

Press the DISPLAY/CHARACTER button.

To select characters: (STEP 2)

Select characters using the jog dial.

To enter characters: (STEP 3)

Press the ENTER button.

Repeat STEP 1 to STEP 3 as necessary to enter the characters in the name.

Type of characters used:

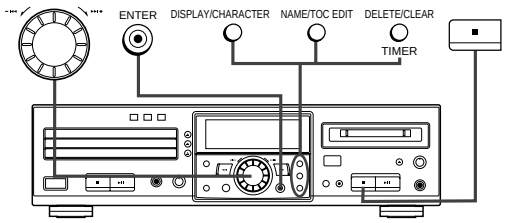
Type of characters	Characters <symbols>
Capital letters	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z . , / ␣ ' ! " # $
Lower-case letters	a b c d e f g h i j k l m n o p q r s t u v w x y z . , / ␣ ' ! " # $
Symbols	1 2 3 4 5 6 7 8 9 0 ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ _ ` ␣

- ␣ means space.

Notes:

Number of characters you can enter

- **Disc names and track names**
  Up to 100 characters (including spaces) can be entered for each name. If more than 100 characters are entered, “NAME FULL” will appear.
- **Total number of characters per MiniDisc**
  A total of approximately 1700 characters can be used for all of the disc and track names. If more than 1700 characters are entered, “TOC FULL 1” will appear.



1

Total number of tracks

Total playing time

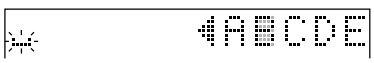
2

3

4

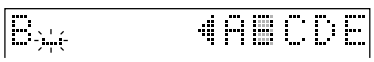
- If you have selected capital letters

5



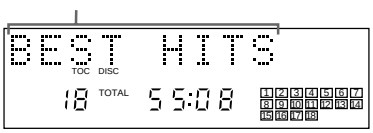
(If you have selected "B")

6



Disc name recorded

7



■ To create a disc name

A title for the entire disc. Disc names are displayed when an MD is inserted.

1 Press the MD ■ button.

- The total number of tracks and the total playing time for an MD will appear.

2 Press the NAME/TOC EDIT button, and then select “DISC NAME” using the jog dial.

3 Within 10 seconds, press the ENTER button.

- The unit will enter the character input mode.

4 Press the DISPLAY/CHARACTER button to select the type of characters you want to use. (Page 31)

5 Select the character you want using the jog dial.

6 Press the ENTER button to enter the character.

- Repeat steps 4 to 6 above to enter the characters in the name. When the next character’s type is the same as the previous character, step 4 can be skipped.

7 After entering all of the characters in the name, press the NAME/TOC EDIT button.

- The disc name will be recorded.

Note:

- This function cannot be used while in the program ("PRGM" is lit: Page 15) or random play mode ("RANDOM" is lit: Page 14). First, cancel the program or random play mode before trying to use this function.

■ To erase disc names

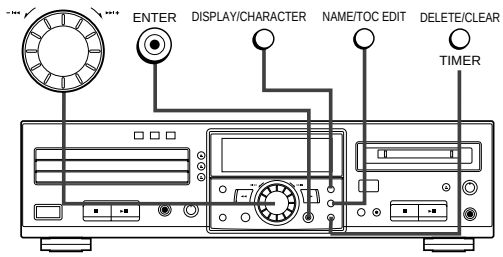
After performing steps 1 to 3 mentioned above, do the following to erase a disc name:

1 Press the DELETE/CLEAR button for at least 2 seconds.

- "NAME CLEAR?" will appear.

2 Press the ENTER button.

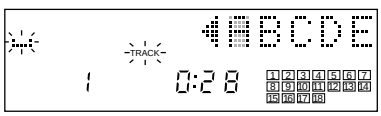
- The disc name will be erased.



1

(To name the first track)

2



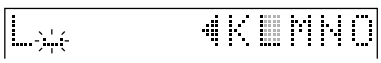
3

(If you have selected capital letters)

4

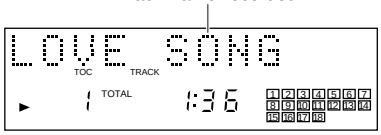
(If you select “L”)

5



Track name recorded

6



■ To create a track name

Name each track.
A track’s name will be displayed whenever you select it and during playback.

1 During playback, press the NAME/TOC EDIT button.

- “TRACK NAME” will appear.

2 Within 10 seconds, press the ENTER button.

- The unit will enter the character input mode.
- The track you are listening to will be played repeatedly.

3 Press the DISPLAY/CHARACTER button to select the type of characters. (Page 31)

4 Select the character you want using the jog dial.

5 Press the ENTER button to enter the character.

- Repeat steps 3 to 5 above to enter characters in the name. When the next character’s type is the same as the previous character, step 3 can be skipped.

6 After entering all of the characters in the name, press the NAME/TOC EDIT button.

- The track name will be recorded.
- The unit will return to normal playback.

Notes:

- This function cannot be used while in the program ("PRGM" is lit: Page 15) or random play mode ("RANDOM" is lit: Page 14). First, cancel the program or random play mode before trying to use this function.
- The track name function can be used while in the stop mode (when selecting a track), in the pause mode, or in the recording mode. (Select “TRACK NAME” from the edit menu.)
- If you create a track name while recording the track, make sure you finish entering the name before you finish recording the track.
  If the end of the recording is reached before you have entered the complete name, only the characters entered before the recording ended will be recorded.

■ To erase track names

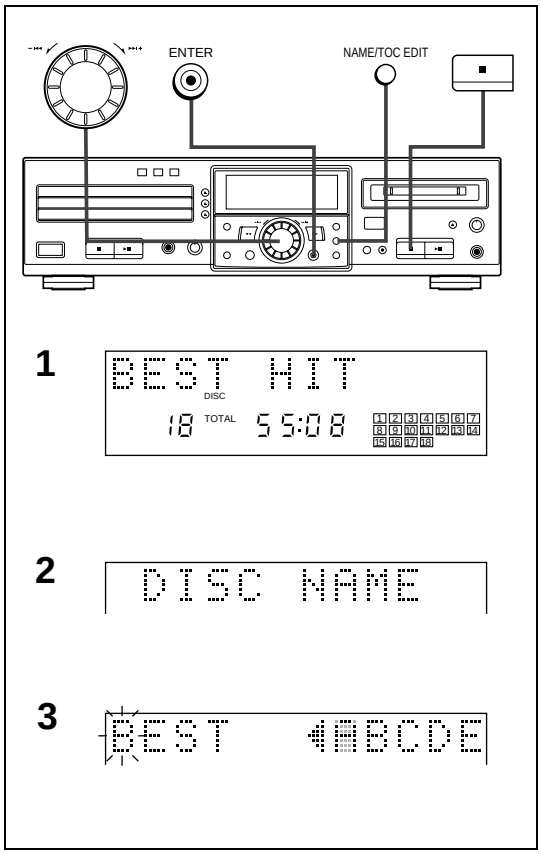
After performing steps 1 to 2 mentioned above, do the following to erase a track name:

1 Press the DELETE/CLEAR button for at least 2 seconds.

- "NAME CLEAR?" will appear.

2 Press the ENTER button.

- The track name will be erased.



■ To change disc names and track names

To change disc names:

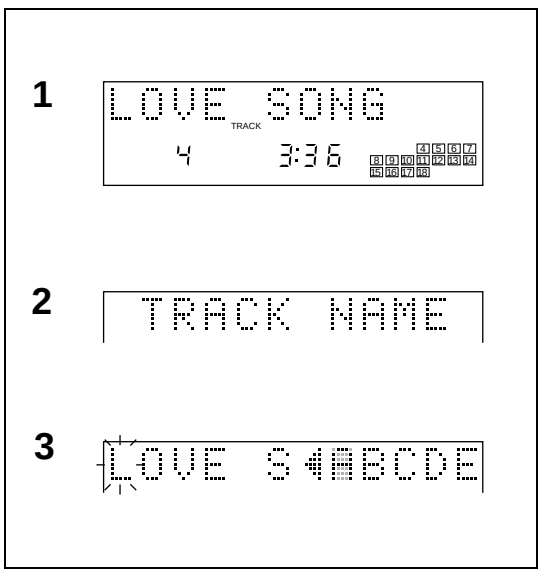
1 During playback, press the MD ■ button.

2 Press the NAME/TOC EDIT button.

3 Within 5 seconds, press the ENTER button.

- The unit will enter the character input mode.
- To cancel this operation, press the MD ■ button.

Now you can erase or add characters. (Page 35)



To change track names:

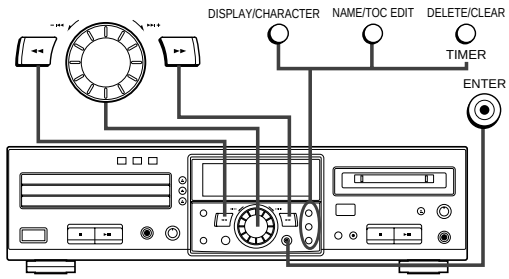
1 While in the stop mode, select the track name you want to change, using the jog dial.

2 Press the NAME/TOC EDIT button.

3 Within 5 seconds, press the ENTER button.

- The unit will enter the character input mode.
- To cancel this operation, press the MD ■ button.

Now you can erase or add characters. (Page 35)



4

(To erase the letter "U")

5

● The character will disappear.

6

■ To erase a character

After performing steps 1 to 3 on page 34, do the following to erase unwanted characters:

Example: To change “BESUT” to “BEST”

4 Press the ◀◀/▶▶ button to make the character you want to erase begin flashing.

5 Press the DELETE/CLEAR button.

6 Press the NAME/TOC EDIT button.

4

(To add a character to left of the "S")

5

(To add the letter "E")

● The original characters will move to the right by one.

6

■ To add a character

After performing steps 1 to 3 on page 34, do the following to add additional characters:

Example: To change “BST” to “BEST”

4 Press the ◀◀/▶▶ button to make the character begin flashing at the place you want to add a letter.

5 Select the character you want to add, using the jog dial. Then, press the ENTER button.

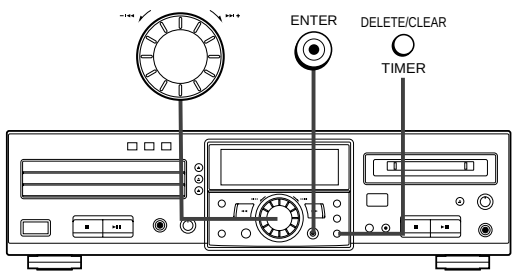
6 Press the NAME/TOC EDIT button.

■ To correct a spelling

After putting the unit in the character input mode, erase the wrong character. Then, enter the correct character.

HOW TO USE THE BUILT-IN TIMER

- Before setting the timer, make sure that the clock setting is correct. (Pages 8 - 9)
- The start time and stop time, which are set with this operation, will be kept in memory until the AC power cord is unplugged or the setting is changed.



1 TIMER SET

2 TIMER PLAY

3 TIMER ON

-1:00 AM

4 -6:00 AM

6:00 AM

5 6:30 AM

TIMER OFF

-7:30 AM

- The stop time setting display will appear.
- The "hours" display will be automatically increased one hour.

6 -8:30 AM

8:30 AM

7 8:40 AM

-M D-

8 M D

1 T-STANDBY

(Timer standby mode)

2 TIMER

Timer playback indicator

■ Timer playback

Before timer playback, the following preparations are required.

- Load a CD or MD.
- Select a CD to be played.

1 While in the stop mode, press the TIMER button, and then turn the jog dial until "TIMER SET" appears.

2 Within 10 seconds, press the ENTER button, and then select "TIMER PLAY" using the jog dial.

3 Press the ENTER button.

- The start time setting display will appear.

4 Enter the "hour", using the jog dial. Then, press the ENTER button.

5 Enter the "minute", using the jog dial. Then, press the ENTER button.

- The stop time setting display will appear.

6 Enter the "hour", using the jog dial. Then, press the ENTER button.

7 Enter the "minute", using the jog dial. Then, press the ENTER button.

- The start and stop times are now set.

8 Select the source program using the jog dial.

MD → CD

9 Press the ENTER button.

Setting for timer playback:

1 Press the TIMER button, and then select "T-STANDBY" using the jog dial.

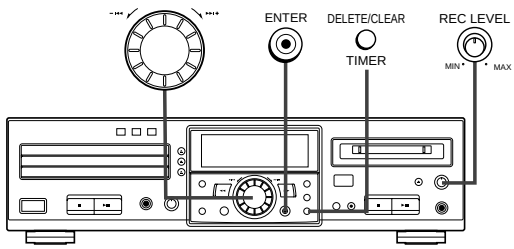
2 Press the ENTER button.

- The settings will appear in order, and the unit will enter the timer playback stand-by mode. (The power will be turned off.)

Preparations for any equipment connected to this unit

Any equipment, such as a stereo, that is connected to this unit should be set up in advance as follows:

- Adjust the sound level of the equipment.
- If it has a timer function, set it so that the power will be turned on at the same time as the timer's start time.
- Adjust the playback volume.



1 TIMER SET

2 TIMER REC

3 TIMER ON
-1:00 AM

4 -6:00 AM
6:00 AM

5 6:30 AM
TIMER OFF
-7:30 AM

- The stop time setting display will appear.
- The "hours" display will be automatically increased one hour.

6 -8:30 AM
8:30 AM

7 8:40 AM
-ANALOG-

8 DIGITAL OPT

When the digital optical input was selected

1 T-STANDBY
(Timer stand-by mode)

2 TIMER REC
Timer recording indicator

■ Timer recording

Before timer recording, the following preparations are required.
- Load a recordable MD.

1 While in the stop mode, press the TIMER button, and then turn the jog dial until "TIMER SET" appears.

2 Within 10 seconds, press the ENTER button, and then select "TIMER REC" using the jog dial.

3 Press the ENTER button.
- The start time setting display will appear.

4 Enter the "hour", using the jog dial. Then, press the ENTER button.

5 Enter the "minute", using the jog dial. Then, press the ENTER button.
- The stop time setting display will appear.

6 Enter the "hour", using the jog dial. Then, press the ENTER button.

7 Enter the "minute", using the jog dial. Then, press the ENTER button.
- The start and stop times are now set.

8 Select the source program using the jog dial.

ANALOG → DIGITAL OPT → DIGITAL COAX

- If you select the analog input, adjust the recording level. (Page 22)

9 Press the ENTER button.

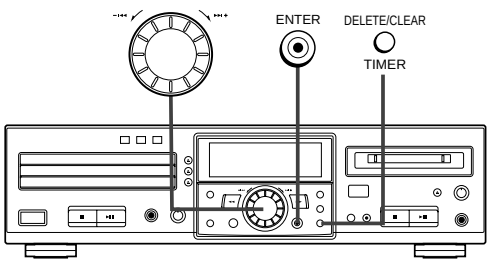
Setting timer for recording:

1 Press the TIMER button, and then select "T-STANDBY" using the jog dial.

2 Press the ENTER button.
- The settings will appear in order, and the unit will enter the timer recording stand-by mode. (The power will be turned off.)

Preparations for any equipment connected to this unit

Any equipment, such as a stereo, that is connected to this unit should be set up in advance as follows:
- Set it up so that music to be recorded will be played at the same time as the timer's start time.



TIMER CALL

(Timer confirmation mode)

TIMER CANCEL

(Timer cancel mode)

■ To check the timer setting

1 While in the timer stand-by mode, press the TIMER button.

2 Turn the jog dial until “TIMER CALL” appears.

3 Press the ENTER button within 10 seconds.

- The timer settings will appear in order, and then the original display will reappear.

■ To cancel the timer operation

When the power is turned on, the timer will be canceled.
The timer operation can also be canceled as follows.

1 While in the timer stand-by mode, press the TIMER button.

2 Turn the jog dial until “TIMER CANCEL” appears.

3 Press the ENTER button.

- The timer operation will be canceled. ("TIMER" or “TIMER REC” will go out.) The start and stop times will still be stored.

Notes:

- When the CD or MD is played to the end, playback will stop before the stop time.
  If you wish to play to the stop time, set repeat play for the CD or MD.
- This timer in this unit cannot be used to control equipment connected to this unit. You must use the timer in the other equipment, if it has one.
- The timer playback and timer recording functions cannot be used at the same time.

In the following cases, the timer recording function will not work.

- When a MiniDisc has not been inserted.
- When a playback-only MiniDisc is inserted.
- When the MiniDisc you inserted is protected against accidental erasure.
- When there is no recording space left on the MiniDisc you inserted (when the "TOC FULL" or "DISC FULL" messages appear).

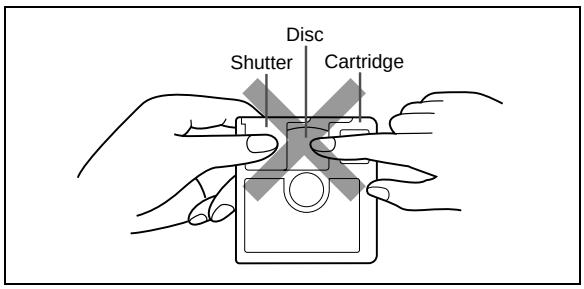
WHAT IS A MINIDISC?

The disc is stored in a cartridge. You can handle it easily without worrying about dust, fingerprints, etc.
However, dust entering the opening of the cartridge, dirt on the cartridge, warping, etc. may cause malfunctions. Please note the following.

■ Handling the MiniDisc

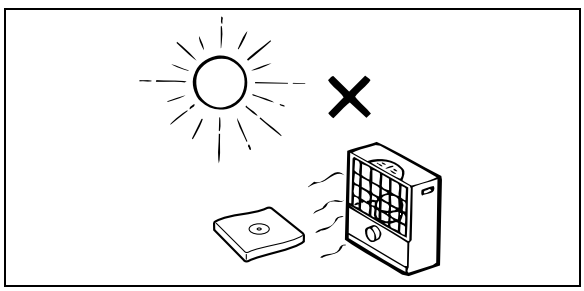
Do not touch the disc directly!

Do not open the shutter or touch the disc directly.
If the shutter is opened forcibly, it may break.



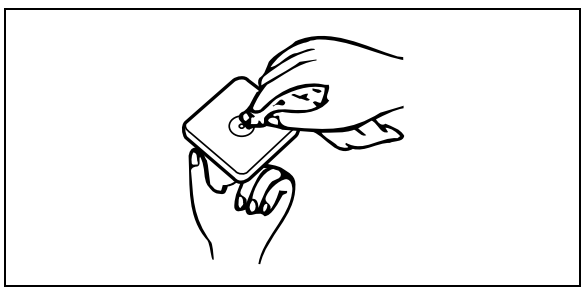
Where not to store discs:

Do not store discs in places with high temperatures or humidity. Specifically, do not leave discs in places exposed to direct sunlight or in cars with doors and windows closed.
Do not leave discs in places where sand can get into the cartridge easily (e.g., beaches).



Regular cleaning:

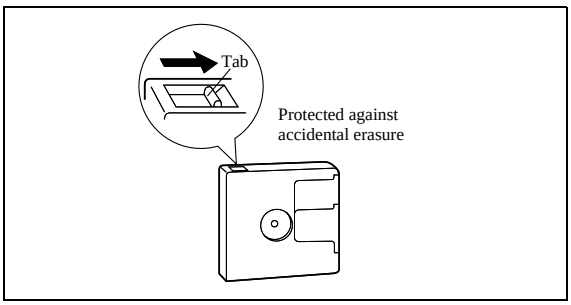
If the surface of the cartridge becomes dusty or dirty, clean it with a dry cloth.



■ To prevent recorded discs from being erased accidentally (accidental erasure prevention)

Slide the accidental erase prevention tab, located on the side of the disc, in the direction indicated by the arrow.

- The disc will then be protected against accidental erasure.
- To add a recording to such a disc, slide the accidental erase prevention tab back to its original position.



■ What is a MiniDisc?

- A MiniDisc is a 2-1/2" (64 mm) diameter disc which is stored in a cartridge. MiniDiscs are easy to handle, compared to compact discs, because they are protected against dust and scratches.
- Recording and playback use a digital system with a sound quality that is similar to that found on compact discs.
  MiniDiscs cannot twist or stretch like tapes. The quality of sound will not deteriorate. MiniDiscs are extremely durable.
- Never disassemble MiniDiscs.

■ Adaptive TRansformed Acoustic Coding [ATRAC]

The ATRAC (Adaptive TRansformed Acoustic Coding) is a new technology that is designed to eliminate the information in sounds which you can not hear and to compress the remaining sound data so that the recording uses about 1/5 of the original sound information.
Sound data is analyzed and filtered to take advantage of psycho acoustic masking. The acoustic quality of the sound is not impaired.

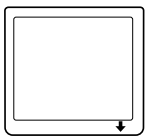
(Continued)

■ Types of discs

There are two types of discs: playback-only and recordable type.

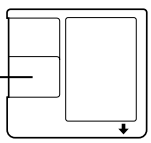
- **Playback-only MiniDisc:**
  This type of MiniDisc is used for commercially available pre-recorded music. This is the same kind of optical disc as CDs. Playback is performed using an optical pickup. (Recording and editing are not possible.)

A shutter will be used on only one side (back).



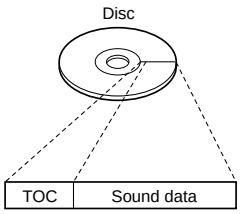
- **Recordable MiniDisc:**
  This is a “raw disc” on which recording can be performed. A magneto optical disc is used.
  Recordings are made using a laser and magnetic field. Repeated recording is possible.

Shutters will be used on both sides.



■ High-speed access

A unique feature of the MiniDisc is the ability to locate the beginning of a desired track at high speed.
This is because the track number and track name data is stored in a TOC (Table of Contents).



■ Shock Resistant Memory

During playback, approximately 10 seconds of information is stored in the semiconductor memory. Therefore, even when the pickup cannot read information for a second or two due to an external shock, the sound continues without interruption because the information stored in memory is output.

MINIDISC SYSTEM LIMITATIONS

"TOC FULL" may be displayed even if the maximum recording time on a MiniDisc has not been reached.	In the MD system, the recording area on an MD is programmed in a TOC (Table of Contents). If tracks are recorded, edited and partial erased repeatedly, the TOC will fill up with information about the tracks, even though the track limit (255 tracks) has not been reached. If that happens, further recording will be impossible. (If you use the all erase function, the MD can be reused as a blank MD.)
Even if the maximum MiniDisc recording time has not been reached, "DISC FULL" may be displayed.	If there is a flaw on the MiniDisc surface, that area is automatically excluded from the space available for recording. Therefore, the available recording time will be reduced.
Even if several short tracks are erased, the remaining recording time may not show an increase.	When the remaining recording time of a disc is displayed, short tracks less than 8 seconds long may not be included in the total.
Two tracks may not be combined in editing.	For MiniDiscs which repeated recording and editing operations were performed, the COMBINE function may not work. Tracks recorded from a CD (digital recordings) and tracks recorded from some other equipment (analog recordings) cannot be combined.
The total of the recorded time and time remaining on a disc may not add up to the maximum possible recording time.	A cluster (about 2 seconds) is normally the minimum unit of recording. So, even if a track is less than 2 seconds long, it will use about 2 seconds of space on the disc. Therefore, the time actually available for recording may be less than the remaining time displayed. If there are scratches on discs, those sections will be automatically avoided (no recording will be placed in those sections). Therefore, the recording time will be reduced.
If you fast reverse or fast forward over recorded tracks, the sound may skip.	An MD which has been recorded or edited repeatedly may skip during fast reverse or fast forward.

TROUBLESHOOTING

■ If a problem occurs

If this unit functions abnormally during operation, first check the following items. If the unit continues to function abnormally, or if an abnormality appears other than listed below, turn off the player's power and disconnect the AC power plug, then consult your SHARP dealer or service personnel.

General

SYMPTOM	POSSIBLE CAUSE	REMEDY
The clock is wrong.	Did a power failure occur?	Try setting it again.
When a button is pressed, the unit does not respond.	———	Turn the power off and on again, and then retry the operation.
Radios make unusual noise or the picture on the TV screen is distorted.	When a radio or TV which uses an indoor antenna is placed near the unit, the picture on the TV screen may be distorted or the radio may not function properly.	It is recommended that you use an outdoor antenna.

CD playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
Even though a disc has been loaded, "NO DISC" or "ERROR" is displayed.	The disc is loaded up-side down.	Load the disc with the correct side up.
	The disc is very dirty.	Clean the disc.
Playback stops in the middle of a track, or playback is not performed properly.	The disc does not satisfy the standards.	Load the correct disc.
	Is the unit located near excessive vibrations?	Place the unit on a firm, level surface free from vibration.
Playback sounds are skipped.	Has condensation formed inside the unit?	Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

MD recording and playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
A recording cannot be made.	Is the MiniDisc protected against accidental erasure?	Slide the accidental erase prevention tab back to its original position.
	Did you try to record on a playback-only MiniDisc?	Replace it with a recordable disc.
	Can you see the "TOC FULL" message in the display?	Put in another recordable disc with recording space on it.
Even though a disc has been loaded, "NO DISC" or "ERROR" is displayed.	Is the disc scratched? Is the unit located near excessive vibration?	Replace the disc. Place the unit on a firm, level surface free from vibration.
Playback stops in the middle of a track, or playback is not performed properly.	Is the unit located near excessive vibrations?	Place the unit on a firm, level surface free from vibration.
Playback sounds are skipped.	Has condensation formed inside the unit?	Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

Remote control

SYMPTOM	POSSIBLE CAUSE	REMEDY
The remote control does not function or does not operate properly.	The batteries (polarity) are not inserted properly.	Insert properly.
	The batteries inside the remote control are dead.	Replace the batteries.
	The remote control is operated from an incorrect distance or angle.	Operate it within a range of 8" (0.2 m) to 20' (6 m) and within an angle of 15° to either side of center.
	No disc has been loaded.	Load a disc.
The power cannot be turned on from the remote control.	Is the AC power cord plugged in?	Connect the AC power cord.

(Continued)

When an error message is displayed, proceed as follows:

Error messages	Meaning	Remedy
BLANK MD	● Nothing is recorded. (Neither music nor a disc name have been recorded on this MD.)	● Replace the disc with a recorded disc.
Can't COPY	● You tried to record from a disc which you are not allowed to copy.	● Replace it with another disc which you can copy from (regular CD).
Can't EDIT	● A track cannot be edited.	● Change the stop position of the track and then try editing it.
Can't REC	● Recording cannot be performed correctly due to vibration.	● Move the unit away from the source of vibration.
DEFECT	● Since this disc has scratches on it, the recording operation was skipped.	● Replace the disc with another recordable disc.
CH ERROR	● The CD changer is not working properly.	● Press the POWER button to turn off the power, and disconnect the AC power cord from the AC outlet. Then connect the AC power cord, and turn on the power again.
Din UNLOCK	● Incorrect digital signals are input.	● Connect correct digital signals. ● Use the analog input jack.
DISC ERR	● The disc is damaged or there is no TOC on the disc.	● Reload the disc or replace it.
DISC FULL	● The disc is out of recording space.	● Replace the disc with another recordable disc.
EDIT OVER	● There is no space left to record the remainder of the CD.	● Replace the MD with another recordable disc.
FOCUS ERROR	● The proper focus cannot be obtained.	● Reload the MiniDisc.
MD ERROR	● The unit is malfunctioning and will require service.	● Contact your nearest authorized Sharp servicer.
MECHA ERR*	● There is a mechanical problem and the disc is not working properly.	● Press the POWER button to turn off the power, and press the ⏏ button.
NAME FULL	● The number of characters for the disc name or track name exceeds 100.	● Shorten the disc or track name.
NO DISC	● A disc has not been loaded. ● The disc data cannot be read.	● Load a disc. ● Reload the disc.
NOT AUDIO	● The data recorded on this disc is not audio data.	● Select another track. ● Replace the disc.
PLAYBACK MD	● You tried to record on a playback-only disc. ● The data of disc names and track names are not able to move from playback-only discs.	● Replace it with a recordable MiniDisc. ● Edit only the sound.
PROTECTED	● The MiniDisc is write protected.	● Move the write protection tab back to its original position.
TEMP OVER	● The temperature is too high.	● Press the POWER button to turn off the power. Allow the unit to cool for a while.
TOC ERR*	● The disc has a large amount of damage. ● TOC information cannot be read. ● The MD does not meet the specifications for MDs.	● Replace the disc with another disc.
TOC FULL*	● There is no space left for recording character information (track names, disc names, etc.)	● Replace it with another recordable disc.
TOC W ERROR	● The unit is malfunctioning and will require service.	● Contact your nearest authorized Sharp servicer.
U TOC ERR*	● The TOC information on this disc does not meet the MD specifications or it cannot be read.	● Replace it with another disc. ● Erase all the data, and try recording.
U TOC W ERR	● The TOC information could not be created properly due to a mechanical shock or to scratches on the disc.	● Press the POWER button to turn off the power, and try to write the TOC again. (Remove any source of shock or vibration while writing.)
? DISC	● The data contains an error.	● Replace the disc with another disc.
0 0:00	● Music is not being recorded.	● Replace the disc with a recordable disc.

*: Number or symbol

(Continued)

■ Moisture condensation

In the following cases, condensation may form inside the unit.

- Shortly after turning on a heater.
- When the unit is placed in a room where there is excessive steam or moisture.
- When the unit is moved from a cool place to a warm place.

When the unit has condensation inside, the disc signals cannot be read, and the product may not function properly.

- If this happens, remove the disc, and open the disc tray. The condensation should evaporate in approximately 1 hour. The unit will then function properly.

■ If a power failure occurs during recording

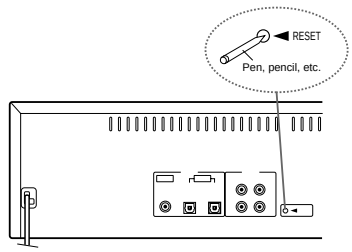
If the AC power plug is disconnected from the AC outlet or a power failure occurs during recording (before the TOC information has been recorded on the disc), the audio portion being recorded at that time will be erased. When a recording is being added to a MiniDisc which already has a recording on it, and the TOC is not updated before the power failure, the added recording will be erased.

- If a power failure occurs or the AC power cord is disconnected for about 10 minutes, the TOC will be written on the disc when power is restored.

■ If a problem occurs

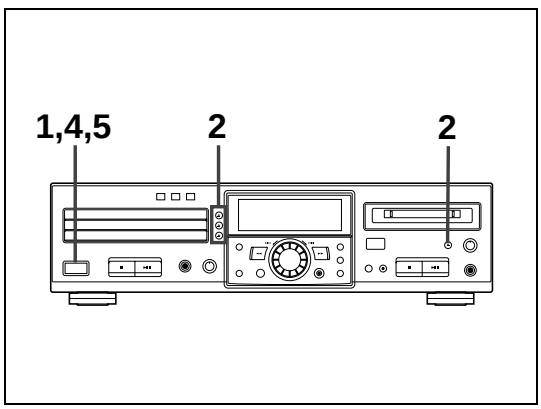
If this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction or the display may not function correctly. If such a problem occurs, do the following:

① Unplug the AC power cord from the AC outlet.
② Wait about 20 - 30 seconds and then plug the AC power cord back into the AC outlet.
③ Press the RESET button on the back of the unit.



- When the RESET button is pressed, all of the settings in memory will be erased.
- If strange sounds, smells or smoke come out of the unit or if a foreign object falls into the unit, turn off the power and unplug the AC power cord from the AC outlet, immediately. Contact your nearest authorized Sharp servicer.

TRANSPORTING THE UNIT



When transporting the unit, proceed as follows:

1 Press the POWER button to turn the power on.

2 Remove all discs CDs/MD from the unit.

3 Press the RESET button on the rear of the unit.

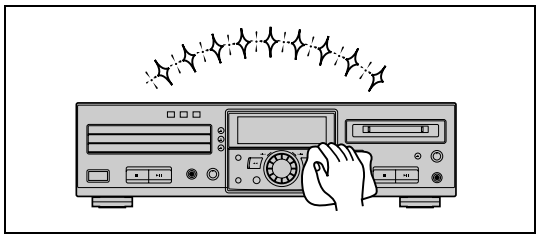
- When the RESET button is pressed, all of the settings in memory will be erased.

4 Make sure "TIME ADJUST" appears in the display, then press the POWER button to turn the power on again.

5 Press the POWER button to turn the power off.

6 Make sure the message on the display has changed from "GOOD BYE!" to "TIME ADJUST", and then unplug the AC power cord from the AC outlet.

MAINTENANCE



■ Internal care

- In order to ensure proper operation of the CD player, preventative maintenance (cleaning of the Laser Pick-up lens) should be performed periodically in order to keep the lens dust-free. Lens cleaners are commercially available. Contact your local CD software dealer for options.

■ External care

- Periodically wipe the cabinet with a soft cloth and dilute soap solution, then wipe with a dry cloth.
- Do not use chemically treated cleaning cloths or other chemicals.

SPECIFICATIONS

As a part of our policy for continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

● General

Type: MD/CD Deck
Power source: AC 120 V, 60 Hz
Power consumption: 20 W
Dimensions: Width: 16-15/16" (430 mm)
Height: 4-11/16" (118 mm)
Depth: 11-15/16" (302 mm)
Weight: 11.3 lbs. (5.1 kg)

Input jacks

Jack name	Jack shape	Input impedance	Reference input level	Minimum input level
LINE IN	Pin jack	Over 22 kohms	680 mVrms	170 mVrms
OPTICAL IN (Optical)	Square optical connector	———	———	———
COAXIAL (Coaxial)	Pin jack	75 ohms	500 mVp-p	———
MIC (Microphone)	Stereo jack	600 ohms	6 mVrms	———

Output jacks

Jack name	Jack shape	Output level	Load impedance
PHONES (Headphones)	1/4" (6.3 mm) stereo jack	15 mW	32 ohms
LINE OUT	Pin jack	2 Vrms	50 kohms
OPTICAL OUT (Optical)	Square optical connector	———	———

● MiniDisc recorder section

Type: MiniDisc recorder
Signal readout: Non-contact, 3-beam semi-conductor laser pick-up
Audio channels: Stereo 2 channels/monaural (long-play mode) 1 channel
Frequency response: 4 – 20,000 Hz (+0/-1 dB)
Rotation speed: 400 – 900 rpm CLV, Approx.
Error correction: ACIRC (Advanced Cross Interleave Reed-Solomon Code)
Coding: ATRAC (Adaptive TRansformed Acoustic Coding)
Recording method: Magnetic modulation overwrite method
A/D, D/A converter: 1 bit
Sampling frequency: 44.1 kHz
Wow and flutter: Unmeasurable (less than ±0.001% W. peak).
Signal/noise ratio: 100 dB (1 kHz)
Dynamic range: 90 dB (1 kHz)
T.H.D. at 1 kHz: 0.008%

● Compact disc player

Type: 3-disc multi-play compact disc player
Signal readout: Non-contact, 3-beam semiconductor laser pickup
Rotation speed: 200 - 500 rpm CLV, Approx.
Error correction: CIRC (Cross Interleave Reed-Solomon Code)
Quantization: 16-bit linear
Frequency response: 4 - 20,000 Hz (+0/–1 dB)
D/A converter: 1 bit
Signal/noise ratio: 100 dB (1 kHz)
Dynamic range: 90 dB (1 kHz)
Wow and flutter: Unmeasurable (less than 0.001% W. peak)

● Timer/clock

Type: Digital clock with date function
Timer: ON/OFF, once a day

MEMO

MEMO

LIMITED WARRANTY

SHARP ELECTRONICS CORPORATION warrants to the first consumer purchaser that this Sharp brand product (the "Product"), when shipped in its original container, will be free from defective workmanship and materials, and agrees that it will at its option, either repair the defect or replace the defective Product or part thereof with a new or remanufactured equivalent at no charge to the purchaser for parts or labor for the period(s) set forth below.

This warranty does not apply to any appearance items of the Product nor to the additional excluded item(s) set forth below nor to any Product the exterior of which has been damaged or defaced, which has been subjected to misuse, abnormal service or handling, or which has been altered or modified in design or construction.

In order to enforce the rights under this limited warranty, the purchaser should follow the steps set forth below and provide proof of purchase to the servicer.

The limited warranty described above is in addition to whatever implied warranties may be granted to purchasers by law. ALL IMPLIED WARRANTIES INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE PERIOD(S) FROM THE DATE OF PURCHASE SET FORTH BELOW. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Neither the sales personnel of the seller nor any other person is authorized to make any warranties other than those described above, or extend the duration of any warranties beyond the time period described below on behalf of Sharp.

The warranties described above shall be the sole and exclusive warranties granted by Sharp and shall be the sole and exclusive remedy available to the purchaser. Correction of defects, in the manner and for the period of time described herein, shall constitute complete fulfillment of all liabilities and responsibilities of Sharp to the purchaser with respect to the Product, and shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise. In no event shall Sharp be liable, or in any way responsible, for any damages or defects in the Product which were caused by repairs or attempted repairs performed by anyone other than an authorized servicer. Nor shall Sharp be liable or in any way responsible for any incidental or consequential economic or property damage. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Product Model Number: MD-R3 MD/CD Deck (Be sure to have this information available when requesting service for your Product.)

Warranty Period for this Product: 1 Year parts and labor from the date of purchase.

Exclusions from Warranty Coverage: accessories.

Where to Obtain Service: At a Sharp Authorized Servicer located in the United States. To find a location of the nearest Sharp Authorized Servicer, call Sharp toll free at 1-800-BE SHARP.

What to do to Obtain Service: Ship prepaid or carry in your Product to a Sharp Authorized Servicer. Be sure to have Proof of Purchase available. If you ship the Product, be sure it is insured and packaged securely.

SHARP ELECTRONICS CORPORATION
Sharp Plaza, Mahwah, New Jersey 07430-2135

TO OBTAIN SUPPLY, ACCESSORY OR PRODUCT INFORMATION, CALL 1-800-BE-SHARP.

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Printed in Malaysia

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